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## ORIGINAL ARTICLES.

SIXTY-FIFTH ANNUAL MEETING OF THE BRITISH  
MEDICAL ASSOCIATION, MONTREAL, AU-  
GUST 31 TO SEPTEMBER 3, 1897.

### THE PRESIDENT'S ADDRESS.<sup>1</sup>

By T. G. RODDICK, M.D.,  
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PROFESSOR OF SURGERY IN M'GILL UNIVERSITY.

You have been welcomed to the Dominion of Canada by the noble Earl who is the worthy representative of our beloved Queen; you have been welcomed to the Province of Quebec, to which this city belongs, by our eloquent and justly esteemed Lieutenant-Governor; the Chief Magistrate of our city has given you "*Caed mille failthe*" in a manner in which only an Irishman with such a great sympathetic heart as he possesses can give; and now I rise to welcome you on behalf of the medical profession of Canada, and to thank you for the honor conferred upon this city and country by your presence here to-day. Would that I could find suitable language in which to thank you also for the high honor you have done me in electing me to preside at this great meeting of the British Medical Association, an honor which is appreciated none the less by the consciousness that it is not a personal matter but a compliment to Canadian medicine.

This meeting of the British Medical Association in Canada is an event which will serve still more to impress the year 1897 upon the memory of our people, the year of the Diamond Jubilee of our beloved Sovereign, Queen Victoria. In no part of her vast Empire—not even in its very heart—did her subjects celebrate the great event with more enthusiastic loyalty and devotion than in Canada, especially in this province, the home of the French-Canadians. We Canadians of both tongues love and honor our Queen. Long may she live! Deeply, too, have we appreciated here the splendid reception accorded in the old home to our Premier, the Right Hon. Sir Wilfred Laurier, whose distinguished bearing and grace of manner eminently fitted him for the important part it was his peculiar privilege to play in the magnificent ceremonies of the Jubilee. A French-Canadian, Sir Wilfred's presence in England as the chosen representative of the Dominion was an object

lesson to the Empire and to the world in the harmony existing between the two nationalities which comprise the Canadian people.

And here let me express on behalf of every representative from the British Isles, and on behalf of every Canadian present, the genuine pleasure we feel in having among us on this memorable occasion so many of our brethren from the United States. This only proves the cosmopolitan character of our profession; this is only another recognition of the unity of medicine. Legislators may squabble, the air may be filled with wild alarms, and war may appear imminent day by day, but our relations are not disturbed in the slightest degree; our interests are common—we are kinsmen in science; we go forward hand in hand, irrespective of race, creed, or color, having one intent only: the advancement of our noble profession, and through that the amelioration of the ills of mankind.

It is my privilege also to welcome the representative of another Republic, *La Belle France*, to whose gifted men of science our profession is so greatly indebted. This gentleman, who bears the credentials of his Government, and officially represents the great nation of which he is so bright an ornament, is known far and wide as the Professor of Physiology in the University of France, Dr. Charles Richet. In coming to Canada it cannot be said, nor will he feel, that he comes to a foreign country, for in the Province of Quebec he will find another France, with a delightful mingling of the old and the new, and his own beautiful language spoken with all the grace and purity of the old *régime*.

But we are further honored by the presence among us to-day of the most illustrious surgeon of our generation, Lord Lister, who stands for the rise and zenith of modern surgery. It has been well and truly said that as long as surgery is scientifically discussed Lord Lister's name cannot fail to be mentioned. We have only to compare the surgery of the time before 1873 with the surgery as practised to-day to appreciate all that he has done for the science. Can it for a moment be questioned that Lord Lister has made operative proceedings possible which only twenty-five years ago would have been considered criminal? Undoubtedly, the most powerful agency in the development of surgery in this century has been the introduction of the antiseptic and aseptic methods of wound treatment, which he initiated.

<sup>1</sup> Abstract.

It is, I understand, an unwritten law of the Association that the President shall not in his address encroach upon the topics which belong by right and usage to the readers of the main addresses and to the presidents of the various sections. With respect to the addresses, which it is customary to deliver on these occasions, medicine will be dealt with by one whose reputation is now world-wide—by our Osler—whose professional education was in great part received in this city, and who, I am happy to say, is still a Canadian. How he has been able to escape the alien law is a puzzle to many; but he has really only been borrowed for a time; he is merely passing through the United States in bond. We are only waiting until we can find a place large enough to hold him, when we will coax him back.

You will hear addresses in Surgery and Public Medicine, delivered by gentlemen who have devoted their lives to their special subjects.

A brief account of the history and the organization of the Association in its establishment of Colonial branches may not prove uninteresting. Canada has now seven branches, the Ottawa and Quebec branches having been formed within the last year. The formation of the Manitoba, Toronto, and Montreal branches was the immediate result of the visit to this country of Mr. Ernest Hart. In 1891, Mr. Hart, who has been editor of the *British Medical Journal* since 1867, passed through Canada, and addressed *en route* the members of the profession in Winnipeg, Toronto, and Montreal. In the course of a very happy speech made on this occasion by Mr. Hart he remarked that he looked forward to the time when the Canadian membership would be large enough to invite the Association to hold a meeting in Canada; and he hoped that the first meeting held outside the limits of the British Isles might be held in this country. Little did we think at the time that Mr. Hart's hopes would be so quickly realized.

One of the secrets of success of the British Medical Association is that it makes no distinction in the treatment of its members. Colonial members have all the privileges of the British members, and are always warmly welcomed at the headquarters in the Strand, and at the annual meetings. The Association has a large reserve fund of £40,000 sterling, which is the joint property of the members, to be used for public and professional purposes, and any suitable applications for grants for medical research, whether from British or Colonial members, always receive attention.

A gentleman to whom the Association is greatly indebted is Mr. Francis Fowke, who was appointed secretary and general manager in 1872. At that

time the Association was in rather a precarious condition financially, owing to its deficient organization; but shortly after Mr. Fowke took up the reins of office matters were found to improve steadily. Imagine the mighty power of the collective action of 17,000 earnest men pitted against false dogmas and ever battling for the truth! It is not, however, by the greatness of numbers that the Association will be judged—it is by the diversity and quality of results.

As it may be presumed that to the majority of those present here to-day Canada is almost an unknown country, I have thought that among one or two other subjects a few remarks on the atmospheric conditions and health-resorts of the Dominion would not be without interest.

The best way to understand the atmospheric conditions of a country is first to understand its physical features. The physical conditions of Canada are very remarkable. Broadly speaking, the country is separable by climatic and physical conditions into three great regions—the Eastern, Central, and Western regions, which approximately run north and south in the general trend of the continent. The Eastern region, which includes the older provinces of the Dominion—Ontario, Quebec, Nova Scotia, New Brunswick, and Prince Edward Island, besides the great fur territory stretching far to the east and northeast of James' Bay, extends from the Atlantic to Lake Superior and the chain of Great Lakes running in a northerly direction from Lake Superior to the Arctic Ocean. Between this great chain of lakes and the eastern base of the Rocky Mountains is the immense interior continental plain which constitutes the Central region of Canada, its southern part consisting of open prairie, its northern part of forest lands. The third part of the division, the Western region, is naturally well defined, consisting of the wide and wild mountainous border of the continent on the Pacific side—the Rocky, Selkirk, and Gold Ranges, which form the great Cordilleran belt, whose average width in Canada is 400 miles.

Eastern Canada is remarkable for its immense number of lakes, large and small, and for its irregular and winding rivers with numerous rapids and falls. Between the Laurentian Plateau on the north and the Appalachian mountain system on the south lies the great valley of the River St. Lawrence. The basin of this majestic river covers 530,000 square miles, of which 460,000 are in Canada. Above the city of Quebec the base of the Laurentian highlands and the ridges of the Appalachian system diverge, and the mighty river flows through an extensive low country of notable fertility in the earlier days of the great granary of Canada.

Included in the Eastern region is one of the most remarkable geographic features of Canada—the great fresh-water lakes or inland seas, Superior, Huron, Erie, and Ontario, which form the perennial reservoirs of the St. Lawrence. Together with Lake Michigan, which is wholly in the United States, they have an aggregate area of 94,750 square miles, an area larger than that of Great Britain. They stand at four distinct levels above the sea—Ontario, 247 feet; Erie, 573; Huron, 581, and Superior, 602. The Niagara Falls, the greatest and most impressive of the natural wonders of our continent, are the direct result of the great height of Lake Erie above Lake Ontario, the river connecting the lakes being only a few miles long. Besides the St. Lawrence, Eastern Canada has several other great rivers, notably the Ottawa, which has a course of 1800 miles and a basin of nearly 1,000,000 square miles, the St. Maurice, the Saguenay, and the St. John, the glory of New Brunswick, which, together with the Atlantic Slope, has a basin of 50,214 square miles. The Central and Western regions also have their abundant share of large and small lakes and great rivers, an account of which would fill reams of paper. It should be noted that the Canadian rivers and lakes collectively cover an area of 130,000 square miles and contain one-half the fresh water on the globe.

I draw special attention to this series of vast lakes and rivers because it exerts an immense and beneficent influence on the climate of Canada. It preserves the mean temperature while the land experiences the extremes. In summer the water is cooler and in winter warmer than the land conditions, which tend to modify the differences and to favor uniformity of climate. The southern boundary stretches over fully 4000 miles, along which line we find that Southern Ontario has the latitude of Central Italy, Nova Scotia that of Northern Italy, Manitoba and Vancouver that of Central Germany. Speaking generally, the Canadian summer may be stated at 60° to 70° F.

From its vast and varied extent, Canada may be said to be the possessor of several climates. Taking Solly's classification as to position, we have in Canada all the three land climates, the low, the medium, and the high. The first has an elevation up to 2500 feet, the second up to 4500, and the third from 4500 upwards. As to temperature and humidity, Canada comes under the category of "cold, moderate, and dry."

In the eastern region of the Dominion there are at least two localities which have been proved to possess many of the qualities which constitute a climate for convalescents from fevers and other depressing diseases, and also consumption in the incipient stage:

the Province of Quebec among the Laurentians, north of this city, of which the village of Ste. Agathe is the center; the other the Muskoka district in Ontario.

The first has been called the Adirondacks of Canada, having many of the features, physical and climatic, of that now celebrated plateau, situated in the northeastern part of the State of New York, and stretching from the Mohawk Valley in the south 150 miles north, almost to the frontier line. The average elevation of the two regions is about the same, being from 1600 to 1800 feet. The immense pine forests, together with the moderate temperature, constitute the chief characteristics of the Canadian district, from the medical point of view. No very systematic meteorologic observations have yet been taken of the Ste. Agathe region, but the indications will probably prove to be very similar to those of the American resort. It is in contemplation to erect a sanatorium on Trembling Mountain, overlooking the village of Ste. Agathe, which will doubtless in time rival the Adirondack Cottage Sanatorium near Saranac Lake Village, which has proved such a marked success under the able management of Dr. E. L. Trudeau. The elevation of the sanatorium will be 2500 feet, thus having an altitude of nearly 700 feet greater than the establishment at Saranac. It is the intention of the Quebec Government to set apart a sufficient portion of the Crown Lands to form a natural park in that part of the Province. It will be called the Trembling Mountain Park, and will cover an area of 100,000 acres of land, in which are several beautiful lakes. Within the boundaries of this park the sanatorium will be constructed.

One hundred miles north of Toronto, in the Highlands of Ontario, is the Muskoka Lake region, an area of about 10,000 square miles, perhaps the most picturesque portion of the whole Province. Within this district, which has a mean altitude above the sea of about 800 feet (200 feet above Lake Huron), there are nearly a thousand lakes and ponds, connected by innumerable streams. The chief lakes are Muskoka, Rosseau, and Joseph. These contain about 400 islands. It is a region abounding in pine forests; the climate is dry, and the air pure and invigorating.

In the Central Region of Canada, that section of the Northwest Territories known as Southern Alberta—the home of the cowboy—has much to recommend it as a health-resort. This strip of prairie and hill country is bounded on the north by the Canadian Pacific Railway, and on the south by the International boundary line. Patients can live there all the year round, and with the exception of an occasional snowstorm, which may cover the prairie to



a varying depth, nothing need interfere with their practically living in the saddle. The so-called Chinook wind has a remarkable influence over all this western section of Canada. It is a warm wind which blows with varying intensity from west to southwest. When the real Chinook blows the temperature often rises in a few hours from  $35^{\circ}$  below to  $40^{\circ}$  above zero. The snow, which in the morning may have been a foot deep, disappears, and before night everything is dripping. But in the space of a single day all the water is lapped up by the thirsty wind, and the prairie is so dry that a horse's hoof hardly makes an impression. It is well known that delicate lads sent from the British Isles to this section of the Northwest to work on the cattle ranches become in a year or two healthy and vigorous men, and are scarcely recognized on their return.

I think it can be satisfactorily proved that Canada is expressly fitted to develop a hardy race capable of great endurance. The races of the British Isles and the French race have certainly not degenerated here. Hingston proved this conclusively some years ago by observations made upon the medical students attending the various schools in this city. He found that the lumbar strength of the British-Canadian of the third generation exceeded by twenty pounds that of the recently arrived English and Scotch students. But the French-Canadian of the tenth generation did better than all by nearly thirty pounds. Not only has the French-Canadian increased in strength, but also in height and weight over the original Normandy stock.

Has the intellectual improvement in our people kept pace with the physical? We are a modest people, but I think we can say with truth that it has. We have a very respectable literature of our own, but the best intellect of the country is as yet absorbed in the practical affairs of life, and has too seldom found expression in art and literature.

We have in Canada several mineral springs of undoubted therapeutic value, and they are pretty generally distributed all over the Dominion, although differing materially in temperature and composition. The best known Canadian spas are the Caledonia, the St. Leon, and the Plantagenet Springs, in the Province of Quebec, and the Banff Springs in Alberta. Other springs in the Province of Quebec are the Abenakis and the Caxton. Besides these there are three or four artesian wells or springs. Of these the chief are the Laurentian Spring in the east end of this city (a mild alkaline water with sodium bicarbonate as its predominating ingredient), and the Radnor, a well of considerable repute situated in the County of Champlain. This was discovered a very few years ago when boring for water to supply

the workpeople engaged in the well known Radnor Forges. It has been likened to the German Seltzer, many of the properties being alike. It bids fair to become a rival in time of the celebrated Apollinaris water, to which it is preferred by many. The well is over 400 feet in depth. In the Province of Ontario the chief springs are the Winchester and the Preston, and those in the town of St. Catherines, near Niagara Falls. The best known and the most popular are the Caledonia Springs, situated on the line of the Canadian Pacific Railway, about midway between Montreal and Ottawa, and about nine miles from the Ottawa River.

The general question of medical education is one of great importance and of unceasing interest, nor is this interest confined to the profession; it is becoming universal. The needs of medical education are fortunately being more fully realized by those who, on account of their wealth and influence are in a position to render that substantial assistance which is so requisite. The time was when every medical school was a purely proprietary concern "run" for the money that was in it. We feel in Canada, and I think I can speak for the profession in the neighboring republic, that this day is past, that high-minded philanthropists like Lord Mount Royal, the late John Henry Molson, the McDonalds, the Drakes, and others with us, and the Johns Hopkins, the Stanfords, the Vanderbilts, the Rockefellers, the Miss Garretts, and others with them are beginning to realize that unendowed instruction in medicine must lead to imperfect results, and that private endowment, in the absence of State aid, has become an absolute necessity to a proper medical training.

Something of this kind has been recently attempted in the University of McGill. By a special arrangement with the Faculty of Arts it is now possible for students to obtain the degree of B.A. along with M.D., C.M., after only six years of study. It has been decided to allow the primary subjects (anatomy, physiology, and chemistry) in medicine to count as subjects of the third and fourth year in arts. It follows, then, that at the end of four-years' study a student may obtain his B.A. degree and have two years of his medical course completed. The last two years of study are, of course, devoted to the third- and fourth-year subjects in medicine. A certificate of Licentiate in Arts will be given along with the professional degree in medicine to those who previous to entrance upon their professional studies proper have completed two years in the Faculty of Arts, and have fully passed the prescribed examinations therein. By this plan also during the first two years of the arts course, the medical student practically completes his studies in physics, chemistry, botany, and ele-



mentary psychology. This scheme is still in the experimental stage, but there is every reason to believe that it will result satisfactorily. What deters so many from taking a full course in arts or science before entering medicine is the length of time consumed before the doctorate degree is reached, although I hope the time is not far distant when every graduate in medicine in Canada shall of necessity be also a graduate in arts or science.

I might state that the standard for the ordinary matriculation examination for entrance to medicine exacted by all universities and licensing boards in this country is, with one or two exceptions, very high. I doubt if the requirements in this way of the Medical Council of Great Britain are any higher.

Time will not permit of my discussing the subject of medical legislation in Canada at any length; and besides you will find it very fully treated in the excellent official guide or souvenir prepared for you by the Executive Committee. In addition I might explain, however, that when the British-American provinces became confederated in 1867, under the British North America Act, the governance of educational matters was taken away from the Federal authorities and handed over to the provinces, each to look after them in its own way. In consequence we have since had a curious complexity of medical legislation, there being practically no uniformity among the provinces in regard to standard of study or qualification for practice. Each province has its own medical board or medical council, as the case may be, which has the power to grant license to practice, either after examination or on simply presenting the diploma of certain recognized universities. In the Provinces of Ontario and British Columbia, an examination is exacted; in the others the license is given under certain restrictions on presentation of the degree, although in the Maritime Provinces an examining board is now about to be established. In this way, as can readily be seen, a Chinese wall is built round each province, and the frontier is carefully guarded so that it is unsafe for a medical man to pass from one to the other unarmed with a license, because of the risk of fine or even imprisonment. Such a condition of affairs is hardly credible, and probably exists nowhere else to the same extent. What is the remedy? Two remedies have been suggested—either the establishment of a central examining board in each province with a uniform standard of matriculation and a uniformly high standard of curriculum which shall in time lead up to a general scheme of reciprocity; or, secondly, a Dominion Examining Board. The first scheme is at present under serious consideration, although there are many difficulties in the way of its accomplishment, none

of which is insuperable, however, providing a spirit of conciliation prevails. The second alternative (a Dominion Examining Board) would in many respects be more desirable, because not only could the licensee practise in any part of the Dominion, but he could register in Great Britain, and thus receive recognition all over the empire.

In conclusion, allow me to express the hope that the arrangements made by the Executive Committee for the entertainment of our guests may meet with appreciation and approval, and that the memories of the brief sojourn here may be all that is bright and happy.

#### BRITISH MEDICINE IN GREATER BRITAIN.<sup>1</sup>

BY WILLIAM OSLER, M.D.,

OF BALTIMORE;

PROFESSOR OF MEDICINE IN JOHNS HOPKINS UNIVERSITY.

To trace successfully the evolution of any one of the learned professions would require the hand of a master—of one who, like Darwin, combined the capacity for patient observation with philosophic vision. In the case of medicine the difficulties are enormously increased by the extraordinary development which belongs to the history of the present century. The rate of progress has been too rapid for us to appreciate, and we stand bewildered, as it were, in a state of intellectual giddiness when we attempt to obtain a broad, comprehensive view of the subject. In a safer "middle flight" I propose to dwell on certain of the factors which have molded the profession in English-speaking lands beyond the narrow seas—of British medicine in Greater Britain.

Evolution advances by such slow and imperceptible degrees that to those who are part of it the finger of time scarcely seems to move. Even the great epochs are seldom apparent to the participants. During the last century neither the colonists nor the mother country appreciated the thrilling interest of the long-fought duel for the possession of this continent. The acts and scenes of the drama, to them detached, isolated, and independent, now glide like dissolving views into each other, and in the vitascope of history we can see the true sequence of events. That we may meet here to-day, Britons on British soil, in a French province, is one of the far-off results of that struggle. This was but a prelude to the other great event of the Eighteenth Century: the revolt of the colonies and the founding of a second great English-speaking nation—in the words of Bishop Berkeley's prophecy, "Time's noblest offspring."

Surely a unique spectacle that a century later de-

<sup>1</sup> Abstract of the Address in Medicine delivered at the Sixty-fifth Annual Meeting of the British Medical Association, Montreal, August 31 to September 3, 1897.

scendants of the actors of these two great dramas should meet in an English city in New France! Here, the American may forget Yorktown in Louisbourg; the Englishman Bunker Hill in Quebec, and the Frenchman both Louisbourg and Quebec in Chateauguay; while we Canadians, English and French, in a forgiving spirit, overlooking your unseemly quarrels, are only too happy to welcome you to our country—this land on which and for which you have so often fought.

We English are the modern Greeks, and we alone have colonized as they did, as free peoples. There have been other great colonial empires—Phenician, Roman, Spanish, Dutch, and French—but in civil liberty and intellectual freedom *Magna Græcia* and Greater Britain stand alone. The parallel so often drawn between them is of particular interest with reference to similarity between the Greek settlements in Sicily and the English plantations on the Atlantic coast. Indeed, Freeman says: "I can never think of America without something suggesting Sicily, or of Sicily without something suggesting America." I wish to use the parallel only to emphasize two points, one of difference and one of resemblance. The Greek colonist took Greece with him. Hellas had no geographic bounds. "Massilla and Olbia were cities of Hellas in as full a sense as Athens or Sparta." The emigrant Britons likewise changed their sky, not their character, in crossing the great sea; yet the home-stayers had never the same feeling toward the plantations as the Greeks had toward the colonial cities of *Magna Græcia*. The assumption of gracious superiority which, unless carefully cloaked, smacks just a little of our national arrogance, is apt to jar on sensitive colonial nerves. With the expansion of the Empire and the supplanting of a national by an imperial spirit, this will become impossible.

It would carry me too far afield to discuss the differences between the native Briton and his children scattered so widely up and down the earth. In Canada, South Africa, Australia, and New Zealand types of the Anglo-Saxon race are developing which will differ as much from each other, and from the English, as the American does to-day from the original stock; but amid these differences can everywhere be seen those racial qualities which have made us what we are—"courage, national integrity, steady good sense, and energy in work."

Could some one with full knowledge patiently analyze the characteristics of British medicine he would find certain national traits sufficiently distinct for recognition. Three centuries cannot accomplish very much (and that period has only just passed since the revival of medicine in England), but the local

conditions of isolation, which have been singularly favorable to the development of special peculiarities in the national character, have not been without effect in the medical profession.

Above the fireplace in Sir Henry Acland's study are three paneled portraits of Linacre, Sydenham, and Harvey; the scroll upon them reads *Littera, Praxis, Scientia*. To this great triumvirate—as to the fountain-heads, we may trace the streams of inspiration which have made British medicine what it is to-day.

Linacre, the type of the literary physician, must ever hold a unique place in the annals of our profession. To him was due in great measure the revival of Greek thought in the Sixteenth Century in England, and in the last Harveian oration Dr. Payne pointed out his importance as a forerunner of Harvey. He made Greek methods available; through him the art of Hippocrates and the science of Galen became once more the subject of careful, first-hand study. Linacre, as Dr. Payne remarks, "was possessed from his youth till his death by the enthusiasm of learning. He was an idealist devoted to objects which the world thought of little use." Pains-taking, accurate, critical, hypercritical perhaps, he remains to-day the chief literary representative of British medicine.

While in critical scholarship and in accurate historic studies British medicine must take a second place, the influence of Linacre, exerted through the Royal College of Physicians and the old universities, has given to the humanities an important part in education, so that they have molded a larger section of the profession than in any other country. A physician may possess the science of Harvey and the art of Sydenham, and yet there may be lacking in him those finer qualities of heart and head which count for so much in life. Medicine is seen at its best in men whose faculties have had the highest and most harmonious culture. The Lathams, the Watsons, the Pagets, the Jenners, and the Gairdners have influenced the profession less by their special work than by exemplifying those graces of life and refinements of heart which make up character. And the men of this stamp in Greater Britain have left the most enduring mark—Beaumont, Bovell, and Hodder in Toronto; Holmes, Campbell, and Howard in this city; the Warrens, the Jacksons, the Bigelows, the Bowditches, and the Shattucks in Boston; Bard, Hossack, Francis, Clark, and Flint of New York; Morgan, Shippen, Redman, Rush, Coxe, the elder Wood, the elder Pepper, and the elder Mitchell of Philadelphia—Brahmins all, in the language of the greatest Brahmin among them, Oliver Wendell Holmes—these and men like unto them have been

the heaven which has raised our profession above the dead level of a business.

In the pictures referred to, Sydenham is placed between Linacre and Harvey; but science preceded practice, and Harvey's great Lumleian lectures were delivered before Sydenham was born. Linacre has been well called, by Payne, Harvey's intellectual grandfather. Harvey returned to Greek methods, and became the founder of modern experimental physiology, and the great glory of British scientific medicine. The demonstration of the circulation of the blood remains in every detail a model research. Harvey was a practitioner and a hospital physician. It is remarkable that a large proportion of all the physiologic work of Great Britain has been done by men who have become successful hospital physicians or surgeons, the better men preferring an active life in practice to a secluded laboratory career.

Thucydides it was who said of the Greeks that they possessed "the power of thinking before they acted, and of acting, too." The same is true in a high degree of the English race. To know just what has to be done, then to do it, comprises the whole philosophy of practical life. Sydenham—*Anglia lumen*, as he has been well called, is the model practical physician of modern times. He laid down the fundamental proposition, and acted upon it, that "all diseases should be described as objects of natural history." To do him justice we must remember, as Dr. John Brown says, "in the midst of what was a mass of errors and prejudices, of theories actively mischievous, he was placed, at a time when the mania of hypothesis was at its height, and when the practical part of his art was overrun and stultified by vile and silly nostrums." Sydenham led us back to Hippocrates; I would that we could be led oftener to Sydenham! Sydenham, not Linacre or Harvey, is the model British physician in whom were concentrated all those practical instincts upon which we lay such stress in the Anglo-Saxon character.

The Greek faculty which we possess of thinking and acting has enabled us, in spite of many disadvantages, to take the lion's share in the great practical advances of medicine. Three among the greatest scientific movements of the century have come from Germany and France. Bichat, Lænnec, and Louis laid the foundation of modern clinical medicine; Virchow and his pupils of scientific pathology, while Pasteur and Koch have revolutionized the study of the causes of disease; and yet, the modern history of the art of medicine could almost be written in its fulness from the records of the Anglo-Saxon race. We can claim almost every practical advance of the very first rank—vaccination, anesthesia, preventive medicine, and antiseptic surgery, the "captain jewels

in the coronet" of the profession, beside which can be placed no others of equal luster.

But there are signs of a great change. The old universities and the colleges, once the chief offenders, have been emancipated, and remain no longer, as Gibbon found them, steeped in port and prejudice. The value of authority *per se*, has lessened enormously, and we of Greater Britain have perhaps suffered as the pendulum has swung to the other extreme. Practice loves authority, as announced in "the general and perpetual voice of men." Science must ever hold that a judicious distrust and wise skepticism are the sinews of the understanding. And yet the very foundations of belief in almost everything relative to our art rest upon authority. The practitioner cannot always be the judge; the responsibility must often rest with the teachers and investigators, who can only learn in the lesson of history the terrible significance of the word.

Turning now to the main question of the development of this British medicine in Greater Britain, I can only indicate a few points of importance, and I must confine my remarks chiefly to the American part of Greater Britain. We may recognize three distinct periods corresponding to three distinct waves of influence, the first from the early immigration to about 1820, the second from about 1820 to 1860, and the third from about 1860 to the present time.

The colonial settlements were contemporaneous with the revival of medicine in England. Fellow-students of Harvey at Cambridge might have sailed in the "Mayflower" and the "Arbella." The more carefully planned expeditions usually enlisted the services of a well-trained physician, and the early records, particularly of the New England colonies, contain many interesting references to these college-bred men. Giles Firman, who settled in Boston in 1632, a Cambridge man, seems to have been the first to give instruction in medicine in the New World. The parsons of that day had often a smattering of physic, and illustrated what Cotton Mather called an "angelical conjunction." He says: "Ever since the days of Luke, the Evangelist, skill in *Physick* has been frequently professed and practised by Persons whose more declared Business was the study of Divinity." Firman himself, finding physic "but a meane help," took orders. These English physicians in the New England colonies were scholarly, able men. Roger Chillingworth, in Hawthorne's "Scarlet Letter," has depicted them in a sketch of his own life: "Made up of earnest, studious, thoughtful, quiet years, bestowed faithfully for the increase of knowledge, faithfully, too, for the advancement of human welfare—men, thoughtful for others, caring little for themselves, kind, just, true, and of constant



if not warm affections"—a singularly truthful picture of the old colonial physician.

Until the establishment of medical schools—University of Pennsylvania, 1763, King's College (afterward Columbia), 1767, Harvard, 1782—the supply of physicians for the colonies came from Great Britain, supplemented by men trained under the old apprentice system, and of colonists who went to Edinburgh, Leyden, and London for their medical education. This latter group had a most powerful effect in molding professional life in the pre-revolutionary period. They were men who had enjoyed not alone the instruction, but often the intimate friendship of the great English and European physicians. Morgan, Rush, Shippen, Bard, Wistar, Hossack, and others received an education comprising all that was best in the period, and acquired the added culture which can only come from travel and wide acquaintance with the world. Morgan, the founder of the medical school of the University of Pennsylvania, was away seven years, and before returning had taken his seat as a corresponding member of the French Academy of Surgery, besides having been elected a Fellow of the Royal Society. The War of Independence interrupted temporarily the stream of students, but not the friendship which existed between Cullen and Fothergill and their old pupils in America. The correspondence of these two warm friends of the colonies testifies to the strong professional intimacy which existed at the time between the leaders of the profession in the Old and New Worlds.

But neither Boerhaave, Cullen, nor Fothergill stamped colonial medicine as did the great Scotchman, John Hunter. Long, weary centuries separated Harvey from Galen; not a century elapsed from the death of the great physiologist to the advent of the man in whose phenomenal personality may be seen all the distinctive traits of modern medicine, and the range of whose mighty intellect has had few, if any, equals since Aristotle. Hunter's influence on the profession of this continent, so deep and enduring, was exerted in three ways. In the first place, his career as an army surgeon, and his writings on subjects of special interest to military men, carried his work and ways into innumerable campaigns in the long French wars and in the War of Independence. Hunter's works were reprinted in America as early as 1791 and 1793. In the second place, Hunter had a number of most distinguished students from the colonies, among whom were two who became teachers of wide reputation—William Shippen, the first professor of anatomy in the University of Pennsylvania, who lived with Hunter on terms of the greatest intimacy, and Philip Syng Physick, who was his house surgeon at St. George's Hospital, and his devoted

friend. But in a third and much more potent way the great master influenced the profession of this continent. Hunter was a naturalist to whom pathologic processes were only a small part of a stupendous whole, governed by law, but which could never be understood until the facts had been accumulated, tabulated, and systematized. He made all thinking physicians naturalists, and he lent a dignity to the study of organic life, and re-established a close union between medicine and the natural sciences. In the latter part of the last century and during the first thirty years of this, the successful practitioner was very often a naturalist. In Canada, many of our best naturalists have been physicians, and collections in this city testify to the industry of Holmes and McCullough.

Until about 1820, the English profession of this continent knew little else than British medicine. After this date, in the United States the ties of professional union with the old country became relaxed, owing in great part to the increase in the number of home schools, and in part to the development of American literature. To 1820, 114 native medical books of all kinds had been issued from the press, and 131 reprints and translations, the former English, the latter, few in number, and almost exclusively French (Billings).

Turning for a few minutes to the condition of the profession in Canada during this period, I regret that I cannot speak of the many interesting questions relating to the French colonies. With the earliest settlers, physicians had come, and among the Jesuits, in their devoted missions, there are records of *donnés* (laymen attached to the service), who were members of the profession. One of these, René Goupil, suffered martyrdom at the hands of the Iroquois.<sup>1</sup>

Between the fall of Quebec in 1759, and 1820 the English population had increased by the settlement of Upper Canada, chiefly by United Empire loyalists from the United States, and after the War of 1812, by settlers from the old country. The physicians in the sparsely settled districts were either young men who sought their fortunes in the new colony or were army surgeons, who had remained after the Revolutionary War or the War of 1812. The military element gave for some years a very distinctive stamp to the profession. These surgeons were men of energy and ability, who had seen much service, and were accustomed to order, discipline, and regulations.

One picture on the canvas of those early days lingers in the memory, illustrating all the most attractive features of a race which has done much to make this country what it is to-day. Widmer was

<sup>1</sup> Parkman, "Jesuits in North America."

the type of the dignified old army surgeon, scrupulously punctilious, and in every detail regardful of the proprieties of life. "Tiger" Dunlop may be taken as the very incarnation of that restless, roving spirit which has driven the Scotch broadcast upon the world. After fighting with the Connaught Rangers in the War of 1812, campaigning in India, clearing the Sangur of tigers—hence his sobriquet "Tiger,"—lecturing on medical jurisprudence in Edinburgh, writing for *Blackwood*, editing the *British Press* and the *Telescope*, introducing "Beck's Medical Jurisprudence" to English readers, and figuring as director and promoter of various companies, this extraordinary character appears in the young colony as "Warden of the Black Forest" in the employ of the Canada Company. His life in the backwoods at Gairbraid, *Noctes Ambrosianæ Canadensis*, his famous "Twelve apostles" as he called his mahogany liquor-stand (each bottle a full quart), his active political life, his remarkable household, his many eccentricities—are they not all portrayed to the life in the recently issued "In the Days of the Canada Company?"

Turning now to the second period, we may remark in passing that the Nineteenth Century did not open very auspiciously for British medicine. Hunter had left no successor, and powerful as had been his influence, it was too weak to stem the tide of abstract speculation, with which Cullen, Brown, and others flooded the profession.

The awakening came in France, and such an awakening! It can be compared with nothing but the Renaissance in the Sixteenth and Seventeenth Centuries, which gave us Vesalius and Harvey. "Citizens" Bichât and Broussais led the way, but Lænnec really created clinical medicine as we know it today. The revival of medicine in Great Britain was directly due to the French. Bright and Addison, Graves and Stokes, Forbes and Marshall Hall, Latham and Bennett were profoundly affected by the new movement. In the United States, Anglican influence did not wane until after 1820. Translations of the works of Bichât appeared as early as 1802, and there were reprints in subsequent years, but it was not until 1823 that the first translation (a reprint of Forbes' edition) of Lænnec was issued. Broussais' works became very popular in translations after 1830, and in the journals from this time on the change of allegiance became very evident. But men rather than books diverted the trend of professional thought. After 1825 American students no longer went to Edinburgh and London, but to Paris, and we can say that between 1830 and 1860 every teacher and writer of note passed under the Gallic yoke. The translations of Louis' works and the extraordinary success of his American pupils, a band of

the ablest young men the country had ever seen, added force to the movement.

In Canada, the period from 1820 to 1860 saw the establishment of the English universities and medical schools. In Montreal the agencies at work were wholly Scotch. The McGill Medical School was organized by Scotchmen, and from its inception has followed closely Edinburgh methods. The Paris influence, less personal, was exerted chiefly through English and Scotch channels. The Upper Canada schools were organized by men with English affiliations, and the traditions of Guys, St. Bartholomew, St. Thomas, St. George, and of the London Hospital, rather than those of Edinburgh, have prevailed in Toronto and Kingston.

The third period dates from about 1860 when the influence of German medicine began to be felt. Teutonic medicine began to be manifested as a vitalizing power chiefly through the energy of Virchow. After the translation of the "Cellular Pathology" by Chance (1860) the way lay clear and open to every young student who desired inspiration. There had been great men in Berlin before Virchow, but he made the town on the Spree a Mecca for the faithful of all lands. From this period we can date the rise of German influence on the profession of this continent. It came partly through the study of pathologic histology, under the stimulus given by Virchow, and partly through the development of the specialties, particularly diseases of the eye, of the skin, and of the larynx.

In certain aspects the Australasian Settlements present the most interesting problems of Greater Britain. More homogeneous, thoroughly British, isolated, distant, they must work out their destiny with a less stringent environment than, for example, surrounds the English in Canada. The traditions are more uniform and of whatever character have filtered through British channels. The professional population of native-trained men is as yet small, and the proportion of graduates and licentiates from the English, Scotch, and Irish colleges and boards guarantees a dominance of Old-Country ideas. What the maturity will show cannot be predicted, but the vigorous infancy is full of promise.

Of India, of "Vishnu-land," what can one say in a few minutes? Three thoughts at once claim recognition. Here in the dim dawn of history, with the great Aryan people, was the intellectual cradle of the world. To the Hindus we owe a debt which we can at any rate acknowledge; and even in medicine many of our traditions and practices may be traced to them.

In estimating the progress of medicine in the countries comprising Greater Britain, the future

rather than the present should be in our minds. The awakening of the profession in the United States to a consciousness of its responsibilities and opportunities has caused unparalleled changes, which have given an impetus to medical education and to higher lines of medical work, which has already borne a rich harvest. Within two hundred years who can say where the intellectual center of the Anglo-Saxon race will be? The mother country herself has only become an intellectual nation of the first rank within a period altogether too short to justify a prediction that she has reached the zenith. She will probably reverse the history of Hellas, in which the mental superiority was at first with the colonies. At the end of the next century, ardent Old-World students may come to this side "as o'er a brook," seeking inspiration from great masters, perhaps in this very city; or the current may turn toward the schools of the great nations of the South.

Meanwhile, to the throbbing vitality of modern medicine the two great meetings held this month, in lands so widely distant, bear eloquent testimony. Free, cosmopolitan, no longer hampered by the dogmas of schools, we may feel a just pride in a profession almost totally emancipated from the bondage of error and prejudice. Distinctions of race, nationality, color, and creed are unknown within the portals of the temple of Æsculapius. Some Son of Beor, touched with prophetic vision, piercing the clouds which now veil the eternal sunshine of the mountain-top—some spectator of all time and all existence (to use Plato's expression)—might see in this gathering of men of one blood and one tongue a gleam of hope for the future, of hope at least that the great race so dominant on the earth to-day may progress in the bonds of peace—a faint glimmer perhaps of the larger hope of humanity, of the day when "the common sense of most shall hold a fretful world in awe."

#### THE SURGEON OF OLD IN WAR.<sup>1</sup>

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I AM indeed greatly honored by having to deliver to you to-day an Address in Surgery. Fortunately for me the title is a wide one, and I shall take advantage of that fact to diverge from the strict consideration of surgical disease, and shall offer you instead a brief sketch of some of the most notable work done of old by a body of members of our pro-

fession who have never received their due reward—those, namely, who have devoted their lives to the succor of the sick and wounded in war.

*Military Surgeons in the Roman Army.*—Twelve months ago my friend, Dr. Barnes of Carlisle, ex-President of this Association, made me acquainted with a remarkable paper by the late Sir James Simpson, entitled "Was the Roman Army Provided with Medical Officers?"—a paper exhibiting such profound learning, so charmingly written, and so little known that I need not make any apology for acquainting you with some of its chief points of interest.

The most careful investigations have failed to make out from their writings whether the Romans regularly appointed physicians and surgeons to their armies or not, although nearly every other question relating to their military organization has been treated, sometimes very fully. Curiously enough, what little information we possess on the subject comes mainly from mortuary or from votive tablets.

The First Tungrian Cohort is known to have been present at the battle of the *Mons Grampius*, and to have served at Castle Cary, at Cramond near Edinburgh, in Cumberland, and at Housesteads. The tablet is highly ornamented, and antiquarians hold that a rabbit and round bucklers carved in the upper part, which are emblems of Spain, show that the young military doctor was probably a native of that country. From various works treating of Roman inscriptions Simpson was enabled to find that four more tablets, in which surgeons of cohorts are mentioned, exist. They were found at Rome.

*Ambroise Paré.*—Hundreds of years went past before there came upon the scene any military surgeon of note, but when he did appear he was a man of transcendent merit—the illustrious Ambroise Paré. From 1517 to 1590, for seventy-three years, he lived an incessantly active life, the contemporary of Vesalius, the immediate predecessor of Harvey. We have only time to glance at the soldier-surgeon side of Paré's life. For over thirty years he followed the wars under four kings of France—Henry the Second, Francis the Second, Charles the Ninth, and Henry the Third, with intervals of a few years at home in Paris. Perpignan, Metz, Verdun, Rheims, Hesdin (where he was taken prisoner and had to write to his wife for his ransom), St. Quintin, La Fère, Amiens, the taking of Rouen, Dreux, Moncontour—these are but some of the bloody battles and sieges at which he was present. Through them all his humanity, his love of his profession, his independent character, and his jovial, frank disposition carried him safe, and made for the son of the poor country joiner warm friends among the greatest and noblest warriors of France.

<sup>1</sup> Abstract of an Address delivered at the Sixty-fifth Annual Meeting of the British Medical Association, Montreal, August 31 to September 3, 1897.



Amid all the splendid work, both anatomic and surgical, which Paré did the application of the principle of the ligature to bleeding arteries is of course that with which his name will be forever associated. In this day of grace it is impossible for us to imagine the horrors which awaited a wretched man as soon as his limb was cut off and the process of stopping the bleeding began. Think of the raw and exquisitely sensitive stump exposed to the red hot cautery or plunged into boiling pitch! For this frightful treatment Paré substituted the ligature, which in our own day, employed in the form of an aseptic animal material which the tissues quietly absorb, has practically reached the pitch of perfection. In his time, too, there was a fixed belief that the danger from gunshot wounds arose from the poison of the gunpowder conveyed on the bullet. To destroy this poison the treatment was to pour into the wound boiling oil in which elderwood bark had been stewed. On one occasion, not having this infernal concoction at hand, Paré used a cold mixture of yolk of egg, oil of roses, and turpentine to his wounded soldiers. He passed a sleepless night from dread that this would injure those to whom it had been applied, and his delight next day was proportionately great when he found that they had had but little pain, while their wounds were free from inflammation and swelling. This was his panacea for wounds ever afterward. There are of course persons who wish to make out that he was not original in the matter of the ligature. He himself says this about it: "Taught me, as I interpret it, by the suggestion of some good Angel, for I neither learned it of my masters nor of any other man. And thus I wish all chirurgions to do. For it is not in our Art, as it is in civil affaires, that prescription, law, or authority should prevail over right reason."

Interesting mention is then made of Robert Clowes, an English surgeon who saw no little fighting between the years 1560 and 1604. Another interesting character was Peter Lowe, a contemporary of Clowes, whose studies marked a distinct advance in the knowledge of gunshot wounds. "Some think that there is a venosity in the powder and a burning in the bullet; which is false, for the things whereof the powder is ordinarily made, as brimstone, saltpeter, coales of divers sorts of trees, water, wine, and aquæ vitæ, have no venosity in them; likewise there is no burning in the bullet, for if the bullet of lead being shot a great way should burn, through heat would be melted itself." Next in order of military surgeons came John Woodall, who wrote the first English work especially devoted to military and naval surgery. Following him came Richard Wiseman, who has been termed the "father of English surgery," and not without reason. Wise-

man believed in the need of giving stimulants to a man who was in the habit of taking them if that man was in a dire strait. Speaking of the "Dunkirkers at sea," he says: "I could scarce ever cure them without allowing them wine, and thereby their spirits were kept up, and I had the liberty to bleed them as I thought fit."

*Baron Larrey.*—Up till the time of the French Revolution it is clear that military surgeons were not men of much importance, and probably had very little influence, if any, in the conduct of campaigns. But in the latter part of the last century war was made on a scale which was never known before, and was made also with a rapidity and a precision quite unprecedented. Moreover, the science and art of surgery had been rescued from quackery, and surgeons in actual practice were able to be of great and real service to the wounded. As a result of the vast masses of men that were hurled against each other, the number of wounded after a big battle amounted to thousands, and civilization had so far advanced that it was imperative that immediate help should be given them, so that about this time the military surgeon really became an important officer in warfare, and began to have his rank and pay well defined, and his merits (up to a certain point) recognized.

In 1776, near the Pyrenees, was born Jean Dominique Larrey, the *Chirurgien-en-Chef de la Grande Armée*, the friend and body-surgeon of Napoleon, and the greatest military surgeon that ever lived. He studied at the medical school of Toulouse, and in 1792 joined the headquarters of the Republican Army of the Rhine under Custine. Now, the ambulances of these days were obliged to remain about a league from the army, and the wounded were only picked up after the fighting was done. General Custine was a man who moved his troops very rapidly, which made matters worse for the wounded. This greatly affected Larrey, who set to work and devised a new ambulance hung on springs, and combining great strength with lightness. Such carriages were termed *ambulances volantes*. They could keep up with the advance guard of the army with the speed of flying artillery, and they carried off the wounded almost as they fell. Larrey had early perceived the enormous advantage a wounded man got by having his fracture set or his bleeding stopped as rapidly as possible, and by getting a roof over his head before night set in. General Beauharnais, in a despatch to the Convention, made special mention of "Surgeon-Major Larrey and his comrades with flying ambulances, whose indefatigable care in the healing of the wounded has diminished those afflicting results to humanity which have generally been inseparable

from days of victory, and have essentially served the cause of humanity itself in preserving the brave defenders of our country." The staff of a flying ambulance was about 340 in number. For each division there were four heavy carriages and twelve light ones. Some had two and others four wheels, and they were furnished with mattresses. In Napoleon's Italian campaigns they came greatly to the fore, and the great man displayed a lively interest in them, reviewing them and causing them to maneuver before him just as if they were on a battle-field. After one of these inspections he said to Larrey: "Your work is one of the most happy conceptions of our age. It will suffice for your reputation."

When Napoleon undertook his Egyptian campaign Larrey proceeded to Toulon to organize the medical staff. So readily did professional men respond to the call made by him that he was soon able to reckon on 800 well-qualified surgeons, of whom many had served in the army of Italy, and these were in addition to the medical officers actually attached to the regiments. This, I think, shows the value that the king of commanders set upon the health of his troops, and the trouble and expense which he was prepared to face in order to maintain it—a great contrast to the miserable way of dealing with this subject which has too long been the fashion with our military rulers. Not long after the landing at Alexandria a certain General Figuières was severely wounded. By able treatment he recovered, and in gratitude for the preservation of his life he asked Napoleon to accept a valuable Damascus sword. "Yes," said the latter, "I accept it in order to make a present of it to the Surgeon-in-Chief, by whose exertions your life has been spared." Upon the sword was engraved the words "Aboukir" and "Larrey," and the surgeon had it till the fatal day of Waterloo, when the Prussians robbed him of it.

Following his adored master through victory and defeat, Larrey at last stood alone at night on the field of Waterloo, except for some medical officers and the wounded who lay groaning around them. Down upon them came a squadron of Prussian lancers. Expecting no quarter, he fired his pistols at them and galloped away. They shot his horse and sabered him as he lay on the ground. Leaving him apparently dead, they went off. But he recovered his senses, and tried to crawl by cross-roads into France. Again he was seized by another detachment of Prussian cavalry. They robbed him promptly of all he possessed, and took him before a superior officer, who ordered him to be shot. What a reward from a soldier to one whose life had been passed in succoring soldiers! About a quarter of an hour before the sentence was to be carried out, a surgeon-major

recognized Larrey. He had attended with deep interest a course of lectures which Larrey had delivered in Berlin six years previously. The prisoner was brought before Bulow, and finally presented to Blücher, whose son had been badly wounded in the Austrian campaign, and captured by the French, and who owed his life to Larrey's exertions.

Larrey's honorable and glorious life terminated in 1842. Napoleon, when he made his will at St. Helena, wrote in it: "I bequeath to the Surgeon-in-Chief of the French Army, Larrey, 100,000 francs. He is the most virtuous man I have ever known." From Napoleon's lips the words of free, spontaneous, ungrudging praise such as this rarely fell.

*Pestilence More Deadly than the Sword.*—In the middle of the last century, while surgery had distinctly improved, the gross neglect of the Government, and the pig-headed obstinacy of the generals was such that our unfortunate soldiers and sailors were hardly any better off than they were in the days of Paré. It has been maintained that Smollett, in the appalling picture of naval life as witnessed in the miserable expedition to Carthage which he drew in "Roderick Random," and which is known to have been the record of his own experience as a surgeon's mate, grossly exaggerated the evils thereof. I do not believe this. Look at the awful and unsuccessful expedition to Porto Bello in 1726, when nearly the whole of the crews of the ships were destroyed by fever three times over; where two admirals, ten captains, fifty lieutenants, and about three to four thousand inferior officers and men perished without striking a blow. Look at the taking of Havana in 1762. The Earl of Albemarle took with him in the fleet 11,000 soldiers. Between June and the middle of October, when Cuba was ours, we had lost 560 men by wounds, and 4708 by sickness. At the end of the Seven-Years' War, a statement was drawn up in the *Annual Register* for 1763 from which it appeared that in all the naval battles of that war there were but 1512 sailors and marines killed while 133,738 had died of diseases or were "missing." Look even at the end of last century, and consider the wretched and disgraceful Walcheren campaign. Never did our poor soldiers fight with more gallantry than in that campaign, only to perish beside Dutch ditches and canals from fever and ague and dysentery.

*Military Courage.*—As we have just seen, Baron Larrey's whole life shows that, while absolutely devoted to the work of his profession, he displayed a cool courage on the field of battle not less heroic than the more dazzling deeds of his fellow combatant officers. Not less does it mark the military surgeon of the present day. Have you ever heard of

Surgeon Thomson who, during the Crimean war, when the army marched off after the battle of the Alma, volunteered, with his servant, John McGrath, to remain behind on the open field with 500 terribly wounded Russians, and passed three awful days and nights—these two Englishmen alone—among foreign foes, some dead, some dying, and none able to raise a hand to help themselves? Have you ever heard of Assistant-Surgeon Wolseley, of the 20th Regiment, who, at the battle of Inkerman, had quietly established his field hospital in that awful place, the Sandbag Battery? When the 150 men, who were all that remained of its defenders, were forced to desert it, about 100 of them fell back in one direction, and in that they found, at thirty paces from them, a Russian battalion blocking their path. There was not a combatant officer left; so the assistant-surgeon took command. He had not even a sword with him, but, laying hold of a firelock with a fixed bayonet on it, he spoke a few words to the men within range of his voice, and told them that what they now had to fight for was not victory but life. Then he gave them the word of command: "Fix bayonets, charge, and keep up the hill." The soldiers answered him with a burst of hurrahs, sprang forward to the charge, and the next instant were tearing through the thickest of the Russians. One-half of these reached the other side alive. Have you ever heard of Surgeon Landon, who was shot through the spine while attending the wounded on Majuba Hill? His legs were paralyzed, but he caused himself to be propped up, and continued his merciful work till his strength ebbed away. When unable to do more he quietly said: "I am dying; do what you can for the wounded." Have you ever heard of Surgeon-Captain Whitchurch, who gained the Victoria Cross at the beleaguering of Chitral for the most determined courage in endeavoring to save the life of Major Baird? Yes, you have for last year at Carlisle you gave him the gold medal of the Association, the highest honor which our Association can give to its members. There died the other day a certain Surgeon-General Reade, C.B., V.C. During the siege of Delhi, while attending to the wounded at the end of one of the streets of the city, a party of rebels advanced from the direction of the bank, and having established themselves in the houses in the street commenced firing from the roofs. The wounded were thus in very great danger, and would have fallen into the hands of the enemy had not Surgeon Reade drawn his sword and, calling upon a few soldiers who were near to follow, succeeded under a very heavy fire in dislodging the rebels from their position. Surgeon Reade's party consisted of about ten in all, of whom two were killed and five or six wounded. Ladies and

gentlemen, Surgeon Reade was a Canadian, and the son of a colonel of the Canadian Militia. Of the 118 wearers of the Victoria Cross 14 are surgeons, nearly 12 per cent. of the whole number. They stand in the proportion of  $9\frac{1}{4}$  per cent. of all the officers of the army, so at all events they have contributed not less than their fair share of the deeds of valor which alone can win that glorious distinction.

*The Army Medical Service To-day.*—I have diverged from the beaten track common to the givers of addresses such as this to tell you what splendid men have been the military and naval surgeons of old, who not merely did their duty nobly and courageously as such, but who have in their day enormously contributed to the advance of the art of surgery. I have done it with a purpose; with the hope of attracting more strongly than ever the sympathy and help of this great Association to their military brethren in a critical juncture of their history. To-day Her Majesty's Government cannot induce candidates to come forward for the medical service of the Queen's army. And why? Because it has persistently treated the Army Medical Department meanly and shabbily. To-day the Government of India can secure the services of the pick of our newly fledged doctors for its army. And why? Because it has always treated the Indian Medical Service liberally and generously. I am not going to enter into the reasons for this; I merely desire to emphasize one point, namely, that money is not at the bottom of this difficulty.

## CLINICAL MEMORANDA.

### A CASE OF NYPHOMANIA.<sup>1</sup>

By JOHN O. POLAK, M.D.,  
OF BROOKLYN, N. Y.

LIZZIE B., aged twenty-nine, single, of German parentage, was seen by the writer in consultation with Dr. Wm. Boes, October 1, 1896. The following history was elicited: Her mother has suffered from melancholia since her menopause, which followed closely upon the birth of her last child. Her father and brother are in perfect health. The patient had the diseases common to childhood, which were not followed by complications. She first menstruated when fifteen years old. The menses were normal, regular, and painless from that time until her nineteenth year, and her general health was exceptionally good. About ten years ago her temperament seemed to change; she became morose and gloomy, shunned the society of her friends, and spent much of her time in solitude. There were periods when she would resume her former habits, but these periods were soon followed by melancholia. While the melancholia was periodic, no relation seemed to exist between

<sup>1</sup> Read before the Kings County Medical Association.



the attacks and her menstrual epochs. Diversion of the mind by constant manual labor made her more cheerful, but she became melancholy again upon being unemployed. She would generally avoid her friends and relatives, and would sit alone for hours masturbating. It has been supposed that her mother's condition aggravated this mental perversion. All reasoning, threats, and bodily restraint failed to prevent the pernicious practice. She would even masturbate in the presence of friends and relatives. Her conversation was silly, and her facial expression stupid. Her general health declined as a result of such unnatural excesses. During the past year she has been under treatment at a sanatorium, without success. Several well-known specialists have advised operation, as offering the only hope of recovery. When seen by the writer she was pale and emaciated, refused to talk, and seemed to enjoy the vaginal examination to which she was subjected. At this time she was masturbating from twenty to forty times a day. Physical examination of the pudendum revealed hypertrophied nymphæ, most marked on the left side. The clitoris was somewhat larger than normal, and the prepuce adherent. The uterus was small and in normal position, and the ovaries and tubes presented no pathologic change. The uselessness of an operation for so pronounced a mental state was fully explained to her father, who, nevertheless, insisted that something radical must be done, and assumed all responsibility. The writer reluctantly consented to operate.

On October 13th, under ether, the clitoris and nymphæ were excised and the labia majora and mucous membrane of the vagina united by interrupted sutures. The vestibule, containing the meatus urinarius, was sutured into the interior angle of the wound, and the line of sutures sealed with iodoformized collodion. Convalescence was uninterrupted and afebrile. The sutures were removed on the eleventh day. Since the operation, three months ago, the patient has shown no desire to return to her former habits; she seems happier, and her mental condition is clearer.

#### A CASE OF GENITO-URINARY TUBERCULOSIS; NECROPSY.<sup>1</sup>

By HERBERT MAXON KING, M.D.,  
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PHYSICIAN, TO BUTTERWORTH HOSPITAL.

ON June 8, 1896, I saw, in consultation, a case of genito-urinary disease presenting certain features which I think are of sufficient instructive value to warrant a brief report. The patient was a girl thirteen and one-half years of age. Her personal history was as follows: During the first two years of life she was extremely delicate, after which she developed apparently as well as any other child. At the age of six years she had diphtheria from which convalescence was perfect. One year later she had measles. The parents noticed an arrest of development in the enamel of the permanent teeth as they appeared; otherwise nothing unusual was noticed about her until the latter part of December, 1895, when she complained of

pain during micturition. As this was not relieved by ordinary measures, a physician was called during January 1, 1896, who diagnosed the condition as cystitis. On the opening of school, after the holidays, the patient was well enough to attend for nearly two weeks, but then, the symptoms increasing, she was taken from school, and on January 20th another physician was consulted, who continued in attendance until March 27th. I believe his diagnosis was identical with that of the first attendant. During this time pain upon micturition had increased and then become constant, being referable to the region of the bladder. This pain was controlled by means of opium, and the patient was given sitz baths and diuretic waters.

On March 29th another physician was called, who continued in attendance until May 2d. His diagnosis was paralysis of the neck of the bladder, and he proceeded to cauterize the mouth of the urethra, where the mucosa appeared intensely injected and excoriated. Urinary incontinence had appeared shortly before this, and it continued throughout the course of the disease, there being a constant dribbling when I first saw the patient. Medication was now directed toward improving digestion and nutrition, and cannabis indica was employed, with partial success, to control pain, while daily local treatment was prescribed, though I could not learn in what this consisted.

On the 10th of May, owing to the absence from town of the physician in attendance, another change was made. The child had now been steadily losing ground for four months. Emaciation, constant suffering (which was increasing), incontinence, and the history of the case, alarmed the last-called physician, and a consultation was advised. A surgeon was called who explored the bladder, under chloroform, for stone, with negative results. A gynecologist, who was then called, detected an abdominal tumor among other things, and finally advised microscopic examination of the urinary sediment, suggesting that the trouble might be tuberculous. This was the first time that attention was especially directed to the urine. Owing to the incontinence, only a very small quantity was obtained, which was found to be at least one-half pus. No kidney elements were found. A bacteriologic examination was not made, and as pyuria had been observed before this time, little or no additional light was thrown upon the case.

On June 2d I was called in consultation. Palpation revealed a large, rounded, soft, and fluctuating tumor which filled the right side of the abdominal cavity. The external genitals were swollen and exquisitely sensitive, notwithstanding the patient was narcotized. Eroded patches were present on the walls of the vagina and especially at the meatus. Examination of the thoracic viscera gave negative results. During twenty-four hours about four ounces of purulent urine was collected, analysis of which, as might have been expected, resulted in the detection of a large amount of albumin and peptones and a very insufficient amount of urea. Microscopically, in addition to the pus, I found many epithelial and granular casts and kidney epithelium, although the large amount of pus present made a study of

<sup>1</sup> Read before the Michigan State Medical Society, May 14, 1897.

formed elements difficult. Specimens of sediment stained on cover glasses demonstrated the presence of large numbers of tubercle bacilli in characteristic arrangement. On June 11th the patient died from septicemia or uremia, I am unable to say which was the most active morbid agent.

The autopsy was made on June 12th, from my notes of which I abstract the following important facts: *Thoracic Viscera*.—The lungs, pleurae, heart, pericardium, and upper respiratory organs showed absolutely no foci of tuberculosis, and, aside from the general condition of innutrition, were normal. *Abdominal Viscera*.—The liver, spleen, pancreas, and intestinal tract proper presented no macroscopic evidences of disease. Microscopic sections were not made. Many of the mesenteric glands were enlarged, and microscopic examination proved them to be tuberculous. The peritoneum was free from tubercles. On the right side, the tumor, which occupied almost the entire cavity and pressed the liver upward, and the intestines to the left and outward, proved to be the distorted remnant of the right kidney. All trace of kidney structure proper was lost, and the mass was simply a fibrous, pus-secreting capsule about six inches long by four inches wide, filled with creamy, fluid pus, and communicating with the bladder by a thickened ureter. The pus contained numerous tubercle bacilli, bacilli coli communis, and streptococci. The left kidney presented the evidences, macro- and microscopically, of subacute parenchymatous nephritis, but not of tuberculosis. The left ureter was not diseased except at the bladder. The bladder wall was from one-half to three-fourths of an inch in thickness, the increase being in the mucosa and submucosa. The epithelial layer was almost completely eroded, the vessels were intensely injected, and about the mouth of the right ureter were several ulcers with raised and overhanging edges. The capacity of the viscus did not exceed one ounce. The walls of the urethra were thickened and the mucosa eroded. The condition of the vagina and external genitals was as above described.

I report this case because I believe that it teaches, (1) that renal tuberculosis may be idiopathic; (2) that it may be confined to one kidney and progress to a fatal termination without involving the other kidney in the specific disease, notwithstanding the continuity of the membranous lining—in other words, that involvement of the other kidney does not occur from hetero-infection; (3) that the golden opportunity for cure is lost in the failure to recognize the disease in its early stages before the bladder is involved and when a nephrectomy would promise the best results.

## MEDICAL PROGRESS.

*A Simple and Accurate Method of Estimating the Percentage of Hemoglobin*.—IDE describes in the June number of *Medicine* a ready means of determining the percentage of hemoglobin, by a method more simple and more accurate than any other yet devised. The two methods most in use at present are those of Fleischl and Gowers. Both of these are simple but also inaccurate, while the

necessary apparatus is expensive. The method which Ide has found so satisfactory is that of Hammerschlag, and is known as the specific-gravity method. It is based upon the fact that the relation of hemoglobin to the specific gravity of the blood is practically constant, more nearly so, in fact, than the relation between hemoglobin and the number of red blood-corpuscles.

The apparatus required is simple and inexpensive, and may be easily transported. It is as follows: (1) A hydrometer jar; (2) a hydrometer (or urinometer); (3) a pipette of small caliber; (4) a glass rod; (5) some steel pens; (6) a bottle of chloroform; (7) a bottle of benzol; (8) a bottle containing a mixture of the latter two, and (9) some filter paper.

The procedure is as follows: The mixture of chloroform and benzol (beginning at the first test with equal parts for instance) is poured into the hydrometer jar. The finger tip of the patient is sterilized with a solution of carbolic acid and pricked with a sterile pen from which one of the nibs has been broken. A drop of blood which has oozed from the puncture (not pressed out) is sucked into the pipette, and then gently forced out over the center of the mixture, and shaken off. To avoid mixing air with the blood-drop all the blood should not be forced out of the pipette, but a little left in its tip. If the blood-drop sinks the mixture must be made heavier with a little chloroform; if it rises benzol must be added. The mixture must be agitated with the glass rod after each addition of either fluid, thus keeping the chloroform and benzol well mixed, and avoiding the breaking up of the blood-drop. When the drop remains stationary, twirling around but neither rising nor sinking, the specific gravity of the mixture corresponds with that of the blood, and may then be recorded with the hydrometer. The same mixture is used indefinitely, the blood being filtered out after each test. The hydrometer jar must be kept absolutely clean, that no fine particles of foreign matter may float in the mixture, and adhere to the blood-drop.

Having determined the specific gravity of the blood, one has only to refer to a table in order to know what percentage of hemoglobin it contains. Such a table is approximately as follows:

Specific Gravity.	Hemoglobin.
1033 . . . .	25 per cent.
1035 . . . .	30 " "
1038 . . . .	35 " "
1040 . . . .	40 " "
1045 . . . .	45 " "
1048 . . . .	55 " "
1050 . . . .	65 " "
1053 . . . .	70 " "
1055 . . . .	75 " "
1057 . . . .	85 " "
1060 . . . .	95 " "

This table is not entirely accurate but it is approximately so, and has been found reliable at least in anemia, chlorosis, malignant tumors and tuberculosis. At any rate, tests made with the blood of the same patient from day to day will show whether treatment is producing an increase in the amount of hemoglobin. A further advantage of this method is that it does away with the necessity of fine discrimination between different tints.

**Tuberculosis and Malignant Disease.**—KELYNACK, in a study of the relation between tuberculosis and malignant disease (*Med. Chronicle*, Manchester, June, 1897), found that of 145 cases of malignant disease 22 presented clear evidence of either healed or active tubercle, about 14 per cent., or rather less than the percentage of non-cancerous persons who are affected by tuberculosis. Of these 22, all but 2 had tuberculosis of the lungs. There were 17 cases of carcinoma and 5 of sarcoma. The conclusion is drawn that the victims of malignant disease have not been more subject to tuberculous processes than have "general" cases, and that malignant disease has little or no influence in reviving latent tuberculous processes, or in predisposing to fresh infection.

**Simple and Accurate Methods for Detecting and Measuring Abduction and Adduction of the Thigh.**—HOFFMANN (*Med. Review*, June 12, 1897) mentions two simple and accurate methods, long employed by him, for detecting and measuring the abduction and adduction of the thigh, which do not necessitate either special apparatus or reference to a table. A slight amount of shortening is often so perfectly compensated for by tilting of the pelvis that its presence is detected with difficulty. If, however, the two limbs be placed together, it will be observed that the anterior furrow at the bend of the thigh on the adducted side is deeper and longer than that on the opposite side; while if abduction be present, the reverse is true. The genitals and the fold between the buttocks will always point toward the adducted thigh. This shows at a glance whether there is abduction or adduction; but it does not determine the degree. This is accomplished in the following manner:

The point midway between the iliac spines is located with a tape-measure, and is marked with ink. A second mark is made directly over the symphysis pubis. This procedure gives two points in the central line over which a string is stretched and continued to the soles of the feet. This string falls midway between the malleoli when the limbs are in a straight position. If either limb be abducted, both the condyle and the malleolus will be outside the string; if adduction is present, they will be inside. The change in position from time to time may be found by measuring and recording the distance of the malleoli from the string.

**Disinfection of the Body by Actol.**—In the *Centralbl. für Bakteriologie*, etc., May 10, 1897, MARX describes the result of experiments to determine the disinfecting power of actol (silver acetate), and more especially its power to disinfect the whole body, a property which has been claimed for it by Credé and others. Marx found that it possesses no such action, and that animals which had been subjected to large doses of actol for varying periods of time died as quickly after infection as the control animals. Furthermore, by chemic examination of the serum of animals treated with actol, not a trace of the salt was found. Actol injected into an infected animal had no effect upon the course of the diseased process. It was, however, proved that in a fatal case of anthrax contracted after the silver treatment, the site of the injection was

absolutely free from bacilli. This shows the great value of the drug as an antiseptic, and it is certainly worthy of a further trial.

## THERAPEUTIC NOTES.

**Kryofin.**—Favorable reports of the action of this new antipyretic continue to be recorded. While closely allied to phenacetin in its physiologic action, but 7.5 grains, the usual dose, is necessary to produce a more favorable effect than 15 grains of the other drug. It also possesses analgesic power, and as an antineuralgic EICHHORST (*Deut. Med. Wochenschrift*) has employed it successfully. Kryofin occurs as white, odorless, tasteless crystals, soluble in 52 parts of boiling and 600 parts of cold water. It is conveniently administered in powder form, and enclosed in wafers. No unpleasant symptoms have been observed to follow its use.

**The Specific Action of Quinin in Malarial Fever.**—At a recent meeting of the North Carolina Medical Society, E. C. Register, M.D., of Charlotte, read a paper with the above title, and stated the following as his conclusions in reference to the action of quinin in the continued form of malarial fever:

Malarial fever without complications will subside after the plasmodia of malaria disappear from the blood; we have in quinin the means to completely eradicate malarial poison from the body; malarial fever occurring in the person of a previously healthy subject, and in the central United States, if at once recognized and properly treated never ends in death; it is speedily curable and never continues, provided the nature of the disease is recognized and appropriate treatment instituted.

As a result of microscopic examination of the blood of a large number of patients suffering from a remittent form of the disease he claimed that the reason quinin does not always produce favorable results in these cases lies in the fact that the drug is improperly administered. He contended that quinin is very imperfectly absorbed when given by the stomach when the patient has a temperature greater than 102° F., but that if the degree of fever is reduced by means of antipyrin, antifebrin or phenacetin, quinin will then cause the crescentic and ring-shaped bodies, the probable etiologic factors in this type of the disease, to disappear from the blood as quickly as it causes the disappearance of the spheric bodies in an ordinary case of intermittent fever.

### For Chronic Myringitis.

R	Soziodolic acid	.	.	.	.	gr. vii
	Absolute alcohol	.	.	.	.	gr. xxx
	Castor oil	.	.	.	.	3 v.

M. Sig. For external use.

A few drops of this solution are allowed to flow upon the tympanic membrane. By means of its daily application the thickening of this membrane is reduced, and even disappears after three- or four-weeks' use. The soziodolic acid is perfectly dissolved in this mixture of alcohol and castor oil, whereas with other oils, olive oil for example, it simply forms an emulsion.—*The Med. Week.*



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SATURDAY, SEPTEMBER 4, 1897.

## THE IMPORTANCE OF A GENERAL KNOWLEDGE OF BACTERIOLOGY.

THE discovery of bacteria and their place in biology, the consequent complete revolution of many lines of thought, the abandonment of old theories and the establishment of new ones, have occurred so recently, and have followed each other with such rapidity, that much confusion exists in the public mind in regard to the subject. It is this confusion which prevents the accomplishment of the practical results which should ensue from this great acquisition to science. On the one hand there exists a morbid fear of the very name bacteria, on the other there is a skepticism quite as pernicious, and it may be said in passing that the unreliable statements of the newspapers are largely responsible for both beliefs. It is by means of our profession that confusion will be transformed into order. A clear knowledge of the life history of these important organisms will go far to rid the public mind of an unnecessary anxiety, as well as to indicate where the real danger lies, and is it the duty of every physician to disseminate practical information in regard to microbiology whenever practicable.

It should be generally known that bacteria are minute organisms belonging to the lowest botanic orders; that each consists of a single cell, so small that it must be magnified 400 or 500 times in order to be observed; that these minute plants have the power of increasing in numbers very rapidly under favorable conditions by simply dividing into two, each half becoming a fully developed organism like the original; that these plants are, like their larger relatives, some useful and some harmful; that many of these plants have the power of taking in food and converting it into a poisonous substance, just as the deadly nightshade, planted in the same soil and inhaling the same air as its cousin, the potato, will convert its food into poison, while the latter is a most useful food; that the poisonous substances formed by the bacteria, when absorbed by the human economy, produce diseases, modified, among other things, by the intensity of the poison, the rapidity of its absorption, and the location of its inception.

From a strictly utilitarian standpoint we may roughly classify bacteria as (1) useful, (2) harmless or neutral, and (3) harmful. Judging from the sensational articles appearing from time to time in the newspapers, one would suppose that every germ is a disease-producer, and that death to all microbes is a result devoutly to be desired; but, as a matter of fact, the vast majority of bacteria (both as to species and numbers) are either harmless or positively beneficial, the destruction of which would be in the nature of a calamity. Perhaps the greatest benefit which we derive from these little germs is their *role* in the oxidation of organic matter. All dead vegetable and animal matter is acted upon by them, and the complex chemic substances of organic life are reduced to simpler compounds, thus rendering innocuous what might be dangerous, or a least unpleasant, and at the same time furnishing those elements which enrich the soil and make possible the harvest. It has been said that without microbes crops would be impossible (Duclaux).

Microchemistry is a prime factor in the cleansing of water. By its action drinking-water which is contaminated with organic matter is rendered perfectly pure by the conversion of dangerous chemic compounds into harmless nitrites and nitrates; it causes the ripening of cheese; it produces the fine flavors of butter as well as some which are not so fine, and it is probable that

at times bacteria are an aid in the digestion of food. At any rate, there are 331 described species of bacteria which are useful, or at least harmless, and only 158 species which are known to produce disease, and comparatively few of these affect the human family (Sternberg). And, moreover, since the conditions for existence of the disease-producing germs are not abundantly supplied, they have, on the whole, a rather hard life-struggle, and it is not wonderful that when the opportunity presents they improve it to the utmost.

It is the harmful germ with which we are most concerned. The useful germ we accept, like air and sunlight, as a matter of course. The harmful germs, after evading every effort to discover them for centuries, are rapidly being isolated, studied, and the influences which are inimical to their continued existence established. It was found that certain diseases, of which typhus is a type, depended for their propagation on the presence of filth. Measures were taken to remove the filth, and typhus disappeared. It is known that typhoid fever, malaria, cholera, and certain diarrheal affections are produced by the presence of germs in drinking-water, and that if such water is boiled these diseases will be prevented. It is known that the sputum of a tuberculous patient, when allowed to dry, may infect others, and that if the sputum is burned the major danger is avoided. It is known that air-borne diseases are, as a rule, carried but a short distance, and that if a patient suffering from them be isolated, and if all discharges and articles of clothing, etc., with which the patient has been in contact are disinfected, the danger of others contracting the disease is comparatively slight. It is known that certain diseases are prevented or modified by vaccination or inoculation; that this acquired immunity is produced by a well understood scientific principle, which is being repeatedly proven. It is known that for pus microbes, as well as others, there is nothing so conducive to their growth as heat and moisture, and that an old-fashioned poultice supplies these conditions most admirably, and that in the discarding of this dangerous agent for the treatment of open wounds, whether infected or not, and in purulent affections generally, much suffering and perhaps some lives have been saved.

These precepts are thoroughly practical, and even a superficial knowledge of the principles of bacteri-

ology will convince the public of their importance, and the necessity of better measures of quarantine; of the enactment and enforcement of laws in regard to isolation and vaccination; of disinfection; of general sanitary cleanliness, including pure food, pure milk, pure water supply, and pure air; matters in which every individual is vitally interested. The more thoroughly bacteria and their effects are understood, the less we will hear of the scoffer, the anti-vaccination crank, and the mob which resists the health officer in the performance of his duty.

The public is beginning to see that the present practice of medicine is founded on science, and it is anxious to know more of it. It is remarkable what an interest people are taking in this scientific basis of medicine. Whether due to the training in science and physiology now common in our public schools or to some other reason would be difficult to decide, but certain it is that there is a wholesome desire for information which the physician should be the last to withhold. He may communicate the fact to his patients that it is unwise to poultice a boil; that it is necessary to disinfect polluted clothing and diarrheal discharges; that it is desirable to boil suspicious water, etc. Let him also explain to them why these things should be done, and in the majority of cases he will find his audience only too glad to listen, and prompt to obey.

#### ANTHRAX AND THE DISINFECTION OF HIDES.

THE report of an invasion of the dread disease anthrax at Dubois, Pa., calls attention to the constant danger which arises from the importation into this country of hides, wool, hair, and rags. It appears that the Falls Creek Tannery, located at Dubois, Pa., recently received an invoice of 100,000 hides from China. The hides were started through the process of tanning, and the tanning-fluid drained into the creek which ran near by. Shortly after this several head of cattle which drank the water from the creek suddenly died. Five of the tannery employees were violently attacked about the same time, four of whom have since died. Investigation has revealed the fact that the hides were infected with anthrax bacilli, and the supposition is that the fatal casualties have resulted from an infection from this source.

An invasion of anthrax is comparatively unknown

in this country but the disease is not uncommon in England, where it is generally known as "wool-sorter's disease" or "splenic fever." In Austria and Hungary it not infrequently occurs among people engaged in sorting rags, and is known as "rag-sorter's disease." It is readily transmitted by inoculation, the virus gaining entrance through a wound or abrasion of the skin, and very possibly through the mucous membrane of the respiratory tract. The external form of the disease is known as malignant pustule. The incubation period is short, lasting about three days, and the termination is generally fatal.

In certain parts of Russia, Turkey, and Asia, anthrax is endemic. From these countries are imported Persian wool, mohair, camel's-hair, as well as hides and rags. As little is known in these countries of the infectious nature of anthrax, and as little attention would be paid to it even if it were understood, the wool or hair of animals, dead from this disease, is gathered as well as that from healthy animals. Those plucked from dead animals have frequently portions of skin adherent to them. They are known as "fallen fleeces," and, of course, constitute the most dangerous part of the cargo.

Some recent deaths from this disease among the wool-sorters in England called attention to the importance of proper disinfection of imported cargoes of this character, and careful investigations have been made as to the best methods of accomplishing it. It is found that the diseases most likely to be imported through this channel are the bubonic plague, rinderpest, and anthrax.

In studying the life history of the plague bacillus, Koch and the Bombay commission have confirmed what was already known, that the plague bacillus rapidly dies out. It is only by constant re-inoculations and passage through living animals that the germ retains a high degree of virulence. The voyage, therefore, necessary to reach this country from plague infected districts, as has been pointed out by Doty of the New York Quarantine, would probably be sufficient to destroy the plague bacillus or at least to rob it of its virulence. All material in which it could find habitat may be easily disinfected through the agency of compressed steam.

It has also been fairly conclusively demonstrated that the virus of rinderpest readily loses its vitality

or at least its virulence under similar conditions. In anthrax, however, a much more resistant type of bacillus is presented. The spores of anthrax retain their virulence even after lying dormant for years, nor are they affected by ordinary changes of climate and temperature. It requires very high temperature and great pressure to disinfect packages of baled goods. In the case of rags, wool, and hair, this can be successfully accomplished in bulk, but a temperature sufficient to destroy anthrax spores when applied to bales of hides would materially damage the hides.

As no antitoxin has yet been discovered which will nullify the virus of this malignant micro-organism the only safety for those subject to its invasion lies in prevention. Thus, it is seen that a new problem is presented in sanitary science as practised at quarantine stations. It will be well, if the recent outbreak at Dubois stimulates the government laboratories at Washington, and others as well, to renewed experimentation and inquiry into the resistance of this virulent and dangerous germ.

## ECHOES AND NEWS.

*Typhoid Epidemic at Arverne, L. I.*—It is reported that typhoid, in a mild form, is epidemic at Arverne and Rockaway, Long Island.

*Death of Professor Humphreys.*—The death is announced of Professor Humphreys, of Johns Hopkins University, at Port Antonio, Jamaica.

*The Oldest Russian Medical Society.*—The oldest medical society in Russia is the Physico-Medical, which was founded at Moscow in 1804.

*International Congress of Hygiene.*—The Ninth International Congress of Hygiene and Demography will be held in Madrid, April 10 to 17, 1898.

*Appointment of Dr. Warner.*—Mayor Strong has appointed Dr. L. Frank Warner, of 139 West Twenty-first street, medical examiner of the Civil Service Board.

*Tricycle Invalid Chair.*—An invalid chair built on the plan of a tricycle, and propelled by a man on the third wheel behind, has been seen in the streets of Baltimore.

*A Doctor a Bank President.*—The fact that medical men do have business ability is shown in the election of Dr. James Bordley of Centreville, as president of the National Bank of that place.

*Tuberculosis in Cows.*—According to an investigation recently made by the Board of Health of New York City, 16.2 per cent. of the milch cows within the city limits are affected with tuberculosis.



**A Woman President of a Medical Association.**—At the last meeting of the Lehigh Valley (Pennsylvania) Medical Association, a woman, Dr. Mary Greenwald of Stroutsbury, was elected president.

**The Next International Medical Congress.**—The next International Medical Congress will be held at Paris in the summer of 1900. Professor Lannelongue has been appointed president of the organization committee.

**Hot Weather and Suicide.**—The great heat which has recently been experienced in Italy has caused an unusual number of suicides, especially in Florence, where forty-four unfortunates have taken their lives since May 1st.

**Oklahoma Recognizes Homeopaths.**—The physicians of Oklahoma Territory are much exercised over the appointment of a homeopath as president of the Board of Health. An effort will be made to have him removed.

**The Statue of Darwin.**—A bronze statue of Darwin was recently unveiled in Shrewsbury, England. It has been placed in front of the Free Library, which was formerly the old Shrewsbury school where Darwin was educated.

**Diphtheria in Australia.**—It is reported that diphtheria is prevalent at Melbourne and throughout the colony of Victoria, Australia. Lack of sanitation and disregard of isolation and disinfection are said to be the cause of the epidemic.

**Death under an Anesthetic.**—A death is reported from Birmingham, England, during the administration of the A. C. E. mixture taken for the extraction of teeth. Evidence showed that the anesthetic was administered by a skilful physician.

**Nurse Dies of Typhoid.**—Miss Lucy Jordan Kane, a pupil-nurse in the training-school connected with the City Hospital on Blackwell's Island, New York, died there recently of typhoid fever, which she contracted in the performance of her duty.

**The Princess of Wales a "Kneippist."**—It is said that the Princess of Wales is taking the Kneipp cure at Woers-hofen. It is possible that the example set by the Princess may be followed by the smart set, and that the Kneipp cure may become a fad.

**Children Paralyzed.**—A strange disease has attacked several children in Hackensack, N. J., which results in paralysis of the muscles of the throat and, in some instances, of the extremities. In each case the paralysis followed intermittent fever.

**Red Cross Bicycle Corps.**—A Red Cross corps of wheelmen, gathered mainly from the different cycle clubs, has been organized in Chicago to give first aid to wheelmen who meet with accidents. The red cross arm-band is the official insignia of the order.

**Bacteria Incubating Nursery.**—The news comes from London, England, that the vestry of the church of St. Pancras has started a bacteria-incubating nursery, where specimens may be sent for the purpose of bacteriologic examination in suspected cases.

**Sickness among Montana Miners.**—It is reported that the recent heavy rains in Montana have made the silver-mine region knee-deep in mud. Dysentery has appeared among the prospectors living on this wet ground, due to lack of sanitation and the impure water-supply.

**War Against Hat-Pins.**—The newspapers of London, England, have declared war against the long hat-pins now worn by women. Two instances are reported in which an eye has been accidentally penetrated by a hat-pin in individuals riding in crowded omnibuses.

**A Medical Forger.**—A Dr. Brewster, said to be a graduate of the Long Island Hospital College, who for some time past has been swindling medical men in the vicinity of New York, was recently arrested for trying to pass a forged check on the Bayonne Hospital at Bayonne, N. J.

**Cause of Death of Napoleon I.**—That Napoleon died of malignant disease of the stomach is confirmed by a copy of the *St. Helena Guardian* containing the full text of the report of the *post-mortem*, signed by the medical officers who performed it, recently received by the *British Medical Journal*.

**Dr. Mosely Appointed Professor of Gynecology.**—Dr. William E. Moseley has been elected professor of gynecology in the Baltimore Medical College. He succeeds Dr. Thomas A. Ashby. Dr. Mosely is a Harvard graduate, and received his early gynecologic training at the Woman's Hospital, New York.

**Pencil Sterilizers.**—The State Board of Health of Indiana has issued an order requiring all schools to be provided with pencil sterilizers and safety drinking-fountains. The former is a Russian iron oven heated by gas, gasoline, or alcohol, in which pens and pencils are to be heated daily to a temperature of 275° F.

**Honor Conferred on Professor Toldt.**—The honorable distinction of rector of the University of Vienna for the year 1897-98, has been conferred on Professor Toldt, the celebrated anatomist, who has made important investigations on the development of the peritoneum, and published many important works on embryologic subjects.

**Deaths in the Profession Abroad.**—The following members of the medical profession have died recently: Dr. R. de Martins Periera, professor of morbid anatomy in the Lisbon School of Medicine; Dr. Victor Mayer, professor of chemistry in the University of Heidelberg; and Dr. Dewindt, president of the Belgium Medical Federation.

**Hereditary and Continuous Shedding of the Finger-nails.**—The case of a man who, since his birth, has been constantly shedding his nails, was recently reported. The man is an otherwise healthy native of Les Basse-Pyrénées, France. His mother and two of her brothers were similarly affected. The shedding occupies about three months, is accompanied by no pain, and new nails take the place of the old.

**A Case of Acromegaly.**—A case of acromegaly is reported from Chicago occurring in the person of a teamster. He

presents a very strange appearance, his head measuring sixteen and one-half inches from the upper portion of the frontal bone to the chin. His hands measure fourteen inches from the wrist to the finger tips and are longer than his feet, which have not as yet shown the same abnormal development.

**A Cure for Hog Cholera.**—The agents of the Chicago, Milwaukee and St. Paul Railroad have been treating hog cholera on a farm near Dubuque, Iowa, with a remedy the nature of which is not mentioned, with the result that during the year fully ninety per cent. of the hogs treated have been cured. As three million hogs died of cholera last year in Iowa, the subject is an important one to the farmer who raises them.

**Smallpox in Alabama.**—The officers of the Marine Hospital Service sent to Birmingham, Ala., to investigate the smallpox epidemic there, report the disease to be genuine smallpox although not of a virulent type. So far it has been confined entirely to negroes. The sanitary arrangements are said to be excellent. An isolated camp has been established, and a hospital located on the mountain-side at a distance from the city.

**Attendance at Moscow.**—It is officially reported that 7300 members attended the Moscow meeting of the International Medical Congress. Of this number more than 3500 were from Russia, 800 from Germany, the same number from Austria, 400 from France, 300 from Italy, 300 from England, 120 from the United States, 30 from Mexico, 10 from Japan, 4 from China, and the remainder from other portions of the world.

**A Scheme to Sell Spectacles.**—A man calling himself "Dr. Frank, of the Manhattan Eye and Ear Infirmary of New York," has been victimizing the residents of Orient, L. I., in the following way: After explaining that he was on his way to a neighboring village to perform an important operation, he told several individuals that they were fast becoming blind and advised them to purchase glasses, which he sold to them at a fabulous price.

**A Divine Healer.**—Another man who calls himself a "divine healer" has arrived in New York, having ridden all the way from Atlanta, Ga., on a bicycle. He claims to cure the sick, the lame, and the blind by a method "controlled entirely by God." He is wholly without education, but attracts many among the poor and ignorant. Although he boasts that he never asks for a fee, everybody is expected to give what he or she can afford.

**Responsibility of Charity Bazaar Fire.**—Baron Mackan, the principal promoter of the Charity Bazaar, which was destroyed by fire not long ago in Paris with great loss of life, has just been tried for homicide in neglecting to take proper precautions against fire. He was found guilty of imprudence and fined 500 francs. The cinematograph men were declared responsible for the fire and sentenced respectively to one year in prison and 300 francs fine, and eight-months' imprisonment and a fine of 200 francs.

**Statistics of Anesthesia.**—The statistics of anesthesia collected by Dr. Gurlt of Vienna, have recently been published

in the *Journal für Zahnheilkunde*. The administrations reported number 58,769, including 27,000 of chloroform, with 29 deaths; about 19,000 of ether, with 3 deaths; 5000 of Billroth's mixture (morphia, chloroform, and alcohol), without a death; and 5890 of chloroform and ether, without a death. During the last two years 32 deaths have been reported, being 1 death in 1836 administrations.

**Hospital Car.**—A new hospital car is being constructed for the Long Island Railroad. The car is built like an ordinary Pullman, and has the best system of springs and trucks. There are seventeen cots, and, in an emergency, hammocks may be swung from the ceiling to accommodate ten or fifteen more patients. In one end of the car there is a complete operating-room, fitted up with glass-tables, and all modern surgical appliances. The car will be kept in readiness at all times so that in case of an accident, it may at once be despatched to the scene.

**A New Source of Zymotic Infection.**—A careful investigation by the New York Board of Health has revealed the fact that the cases of malarial fever and sewer-gas poisoning in the district centering about Fifty-ninth street and Madison avenue are due to the pipes of the steam-heating company. These superheated pipes, passing through the soil in close proximity to gas pipes and sewers, keep the earth at a proper breeding temperature for poisonous germs. As the streets are hermetically sealed by asphalt pavements, the only escape for the confined and contaminated air is along the service pipes leading into the houses.

## CORRESPONDENCE.

### OUR VIENNA LETTER.

[From our Special Correspondent.]

HOTEL ACCOMMODATIONS AT MOSCOW DURING THE CONGRESS—INCREASE OF INTESTINAL CARCINOMA ACCORDING TO MORTUARY STATISTICS—PROFESSOR NOTHNAGEL AND THE INCREASE OF CANCER AMONG ALL CLASSES OF PATIENTS—SOME OPINIONS AS TO THE PARASITIC ORIGIN OF CANCER—TWO CASES OF AUTO-INOCULATION OF GASTRIC CARCINOMA—PRECAUTIONS AGAINST THE INTRODUCTION OF THE PLAGUE.

VIENNA, August 15, 1897.

THE most interesting topic of conversation among medical men here is the arrangements for the Congress at Moscow. The membership-tickets and free passes on the Russian railroads have come and everything promises a very pleasant time. There is one little cloud on the horizon, however, and as a number of Vienna medical men attended the International Congress at Rome three years ago, it looks darker to them than to the untraveled. Those who have received notices that rooms have been reserved for them, as requested, say that charges are very high. To an American who realizes that, as a rule with us, during such assemblies special rates at hotels are given to members of the associations, it seems hard that there should be a considerable advance in price on such an occasion. This seems to be the general expectation

here, however. As hotel accommodations in Moscow, despite its population of more than three-quarters of a million, are rather limited, it is possible that there may be some inconvenience experienced in securing comfortable lodgings, and rates will be correspondingly high. This may really be only a false presentiment, however, such as is liable to occur when a journey into the unknown is contemplated. The committee of arrangements has given complete satisfaction so far by its management of things, and it is more than likely that every effort will be put forth to show the visitors that the much-lauded Russian hospitality is not an empty phrase.

Here, where every interesting fatal case comes to autopsy, one of the most striking things in the section-room is the comparative frequency of intestinal cancer. Every ten days or two weeks at least one case of the disease turns up. Professor Nothnagel, in the last clinic of the year, called attention to the fact that the frequency of the occurrence of cancer seems to be on the increase, but that this is especially true of the intestinal form. That this is not apparent but real is proved by the statistics of the Pathological Institute of the General Hospital. During the twelve years from 1870 to 1881, inclusive, one hundred cases of cancer of the intestine were reported *post-mortem*, while during the twelve years from 1882 to 1893, the number had risen to 242, nearly  $2\frac{1}{2}$  times as many. This is a startling increase and might be thought to be due to other factors, besides increased frequency of the affection itself—to more careful diagnosis for instance, to the fact that more cancer patients came to the hospital, as the prejudice against hospitals on the part of the poor has been gradually becoming less during these later years, or to the retention of more cancer patients until the fatal termination, or even to such extraneous considerations as change in the character of the patients who have come to the hospital, or to an increase in their number. All of these Professor Nothnagel excluded. He has been connected with the hospital in important capacities during all of these years, and he is sure that the character of the patients is not different from what is used to be. The number of patients has not materially increased, and their period of retention is about what it used to be. The conclusions from the mortality statistics are confirmed by the fact that a corresponding increase of the number of all patients in whom intestinal cancer was diagnosed, including those, therefore, who did not die in the hospital, has also taken place. A fair proportion of cancer cases when it becomes evident that the affection is hopeless prefer to die at home, and so do not enter as a factor of the mortality statistics.

It is not alone in hospital cases, however, that this increase of intestinal cancer has taken place, for it is not confined to the poorer classes. Professor Nothnagel recalled a private conversation with the late Professor Billroth during 1893, in which they were in accord in thinking that a startling increase in the number of cases of intestinal cancer in their private practices had also taken place.

The increase noted—*post-mortem*—during the twelve years from 1882 to 1893 has continued since, and every

year the number grows larger, so that the next twelve years promise to show a still larger number, actually and comparatively, of deaths from intestinal cancer. The same condition of affairs obtains also for cancer in general. The increased frequency of cancerous affections has, of course, been reported elsewhere. In England attention was called to it several years ago. The German statisticians have shown that cancer is also seemingly on the increase in many parts of their country. Recent French statistics point to the same conclusion. Most statistics, however, included so heterogeneous a collection of cases that their value could be impeached by such considerations, as that better diagnostic methods and more faithful reports have added to the number of recorded cases, but that the affection itself was probably not more frequent than formerly.

These Vienna statistics, however, would seem not to be open to these objections, and are not the result of a series of cases collected for the purpose of proving or disproving a theory. They are simply the report of *post-mortem* findings covering many years, where the same methods of examination always obtain. It would seem to be beyond cavil then, that cancer in its worst form and in a situation where least can be done for it with reasonable hope of success, is becoming startlingly more frequent among all classes of patients.

With a field like this for investigation of the etiology of cancer one is surprised not to find more new theories as to its probable origin. They cling very conservatively here to the older explanations, such as they may be, and only turn to a new theory occasionally when some one else has been bold enough to advance it, and then but to show its falsity. While most of the medical world is gradually coming to the opinion that the cause which produces a malignant multiplication of epithelial elements is parasitic in nature, most of the authorities on pathology here shake their heads very dubiously, and say they find no reasons for holding such an opinion. Professor Metschnikoff at the Pasteur Institute definitely asserts his belief in the parasitic origin of cancer, and considers that it will be found to be a form of protozoan. The Italians have been interesting themselves lately in the theory that it is a blastomycete, a form of yeast, and I saw, through the kindness of Dr. Roncalli in Rome, a series of specimens which illustrate the theory very beautifully. The readiness with which articles discussing a parasite of cancer are accepted by the German medical journals generally is an index of what the German trend of thought in regard to the subject is. Despite all this one hears very little of the parasitic theory here.

Professor Kollisko in a recent demonstration showed two very interesting cancers of the stomach, where it was evident that there had been auto-inoculation. On the posterior wall of the stomach in each case was a cancerous nodule about the size of a walnut. On the anterior wall, but separated from the first by an inch or more of healthy tissue was a second, smaller nodule. The second was evidently not a metastasis; much less was it due to any infiltration in the continuity of the tissues. The anterior wall in both cases, while the stomach was empty,



had collapsed against the site of the nodule on the posterior wall, and the abnormal pressure so set up had caused slight injury to the mucosa, at which place there occurred an infiltration of cancer-cells from the superficial portions of the primary growth.

Such an occurrence has been described before, and is just such another condition as occurs under similar circumstances when both lips become affected with cancer, or two adjoining skin surfaces, as the folds beneath the breast, become successively infiltrated as the result of contact. The condition has been used with supposed effect as a proof of the contagious nature of cancer, and as all contagion of which we know is of parasitic origin, it follows that this condition may be taken to indicate the presence of parasites.

Professor Kollisko showed that it was merely a transference of epithelial elements already predisposed to atypical overgrowth—a true metastasis, not through blood or lymph, but from tissue contact. As in ordinary metastasis it is, as a rule, an overgrowth of transferred elements which occurs, not the irritation of a new focus causing cancerous degeneration, and so the question would seem to remain where it was years ago when the original theories of cancer etiology were advanced.

Despite the fact that the Government Pest Commission reported that there was little chance of the introduction of the pest into Europe, since the contagion is not carried in fomites, a conclusion with which the German Commission fully agreed, the health authorities consider it necessary to take special precautions. For this purpose Professor Weichselbaum, the official pathologist, has been asked to furnish the data necessary for the immediate recognition by health inspectors of the pest bacillus in suspected cases. He has also been asked to open a course at the Pathological Institute, in which the peculiarities of the bacillus will be practically demonstrated, so that cases may not escape detection at the very beginning should they occur, and so prevent the possibility of an extensive infection.

## SOCIETY PROCEEDINGS.

### THE BRITISH MEDICAL ASSOCIATION.

*Sixty-fifth Annual Meeting, Held at Montreal, August 31 to September 3, 1897.*

[Special Telegraphic Report to THE MEDICAL NEWS.]

#### GENERAL SESSION.

##### FIRST DAY—AUGUST 31ST.

NEVER did the British Medical Association convene under brighter skies or with more cordial surroundings. The internal conditions of the gathering are fully in accord with the environment; for the body of members from the mother country is large, the American profession has freely responded to the invitations courteously extended by the local committee, and the Dominion members swell the tide, until, at the close of the first day, some 1600 are recorded as in attendance, a number which compares favorably with that usually found at sessions held within the sacred limits of the "Little Island," which

nearly all now in attendance regard as the "old home country," either directly or ancestrally.

The session was opened after the old fashion by a special service in the great Christ Church. It was a most graceful and impressive ceremony on the part of the Association, and to the anthropologist a pleasing reminder of the common lineage of the two great professions, theology and medicine. To observe a congregation made up two-thirds of men was in itself impressive, and the beautiful music, and the appropriate sermon by Bishop Domoulin made the occasion one long to be remembered.

Early in the afternoon the delegates and guests filled the large auditorium, Windsor Hall, to overflowing to listen to the speeches of welcome and the President's address. (See page 289.) The platform was occupied by the speakers and other celebrities, among whom were Lords Mount Royal and Lister, Sir William Hingston, and Dr. Charles Richet of Paris. It was an enthusiastic audience, especially in its loyalty, every reference to the mother country, the Queen, and the glories of Canada, being applauded to the echo. But no single burst of applause exceeded that which greeted Dr. Roddick's graceful tribute to Lord Lister. The President of the Association, Dr. T. S. Roddick of Montreal, introduced the Mayor of the city, who cordially welcomed the delegates. He was followed by Sir Adolphe Chapleau of Quebec, who, in eloquent and impressive language re-echoed the former speaker's words of welcome. The Earl of Aberdeen, Governor-General of Canada, then, as he expressed it, thrice welcomed the members of the Association to its first place of meeting beyond the confines of the British Isles, and in a brief but witty speech made every one feel that his welcome was a personal as well as an official one.

At the close of Dr. Roddick's address Lord Lister moved a vote of thanks and took occasion to compliment the Canadian members upon their lovely country and healthful climate, which made it seem to him one vast health-resort. He sympathized with the President with reference to the difficulties of medical legislation regarding license to practise, and expressed a preference for the English method, in which teachers are represented in the examining-boards, as freest from objections. He begged to express the gratitude of the members of the British Medical Association for the cordial welcome and magnificent hospitality extended to them. Sir James Grant of Ottawa seconded the vote of thanks.

The secretary, Dr. Adami, then read the names of the delegates representing the various branches of the Association throughout the empire, and from the various State and National societies of the United States, and each delegate came forward in turn and was presented to the president, and by him to the Earl of Aberdeen. The address of the president completed the session.

A trolley ride around the city was then indulged in, and, later, a reception by Dr. Roddick and his daughter was held in the handsome rooms of the Art Gallery. One of the pleasantest events of the day was the dinner tendered to Lord Lister by the Medico-Chirurgical Society of Montreal. About three hundred members and guests were present, and at its conclusion the president of the

Society, Dr. George Wilkins, presented the guest of honor with a bound, illuminated Address expressive of the esteem in which his great discovery of antiseptics is held by the profession. In accepting the gift, his lordship expressed in a few well-chosen words his appreciation not only of the Address itself but of the kindly feeling which had prompted its preparation.

In the evening a reception and *conversazione* was held at Laval University, after which PROFESSOR CHARLES RICHET, delegate of the French Government and of the Faculty of Medicine of Paris, delivered in French an eloquent address upon

#### THE WORK OF PASTEUR AND THE MODERN CONCEPTION OF MEDICINE.

The speaker clearly set forth the change which has been wrought in placing the practice of medicine on a purely scientific basis. The credit of this is largely due to Pasteur. Upon his discoveries rests the entire structure of experimental medicine. The logical succession of events in Pasteur's work were traced in a graphic way from the first discovery of the biologic basis of fermentation to the demonstration of the principles of immunization by attenuated virus.

The great fact of the generation of germs was absolutely unknown before Pasteur. The inoculation of liquids with spores and the method of sterilization was revealed to us by Pasteur. It is the nature of great discoveries that they become popularized quickly and thus become elementary. A first-year's medical student knows perfectly that which neither Lavoisier nor Leibig, nor Férmy nor any one before Pasteur had been able to perceive. Great discoveries fall rapidly within the domain of common knowledge; they become so simple that they cease to surprise us.

It is true that Pasteur did not discover all the microbes of all contagious diseases, but this is of small moment, since he was the first to discover that infection was a phenomenon of microbial parasitism. All those who after him have proved points of detail, however important or fundamental they may be, have but followed the path traced by the master. Whether they will or not, they are all the pupils of Pasteur, as those who follow the study of chemistry are pupils of Lavoisier.

The greatest of Pasteur's disciples, Robert Koch, although with some ingratitude he refuses to recognize his master, has only perfected certain points in technic and applied his ingenuity and his perspicacity to the solution of questions which in spite of their practical importance are still secondary. He has not, in fact, been able to do anything new except upon points of detail, all that is essential comes from Pasteur himself.

It need not be said that this idea of the microbe, of the parasite, has become the basis of medicine. If we take up treatises on pathology written before this prodigious revolution, we shall be astonished by the insignificance and the nothingness of these very ancient books. Yet they are not really very old, they are dated 1875 or 1880, but as one reads them it seems as though several centuries must have intervened between these venerable writings and modern books.

In ten years medicine has been entirely overturned and re-made. It is being re-made every day. Every day brings some new discovery in matters of detail, but the great principle is always there, and it must always be attributed to the one initiator.

Fermentation, infection, contagion, vaccination; here in four words we have the work of Pasteur. What more need be said? Do not these four words possess, in their simplicity, unequalled eloquence?

Can any one longer maintain that the progress of medicine is not due to experimental science? Does not all this knowledge of microbes and of the part which they play in disease imply, immediately and necessarily, immense progress in therapeutics?

Pasteur was spared to take part in the triumph of his ideas, and to be a witness of his own glory. If, like so many creators, he had sometimes in his earlier days known conflicts and hatreds and petty quarrels and foolish objections, nevertheless he had not to deplore the ingratitude of mankind. He died full of honors, surrounded by admiration, respect, and love.

And now let us turn back to consider the indisputable union of medicine and science. This, in fact, is what ought to strike us in the work of Pasteur. It is not only in general biology and in the progress of our knowledge that his work is great, it is still more in its immediate practical applications. The great biologists of our century, Lavoisier, Claude Bernard, Darwin, have, without doubt, left behind them work which, by reason of its conquests of new truths, is not inferior to the work of Pasteur, but these new truths do not lead to any such immediate application as antiseptics, the treatment of hydrophobia, anthrax, vaccination, or the prophylaxis of infectious diseases. Pasteur was not only a man of science, he was also a benefactor, and there is scarcely one who can be compared with him as a benefactor of suffering humanity except Jenner, who found out how to preserve thousands and thousands of human beings from the most hideous of diseases.

Serum-therapeutics is a direct sequence of the labors of Pasteur. This is a mode of treatment born of the experimental method alone. Here again science has done for the art of medicine that which clinical observation, left to its own resources, could never have accomplished.

A German experimenter, Behring, after studying the effects of the serum of refractory animals upon diphtheria, showed (in 1892) that this serum is wonderfully efficacious in the treatment of the disease. He applied the serum method of treatment not only to diphtheria, but also to tetanus, and, at first in animals and afterwards in man, he obtained results which were really marvelous. Gentlemen, you know the rest, and I need not tell you that this serotherapeutic method, improved and popularized by Roux in 1894, is now a treatment without compare. The statistics on this head are absolutely conclusive. The mortality of diphtheria, which was forty-five per cent., has fallen to fifteen per cent. That means for the city of Paris alone an annual saving of about 1000 human lives; for the whole of France, nearly 10,000 lives. We may take the same proportion for Italy, Germany, England,

the United States, Canada, and Russia, and may estimate the number of infants which serum-therapeutics annually snatch from death at about 50,000.

The last word has not yet been said about serum-therapeutics. The organism is endowed with a marvelous power of resisting the poisons secreted by microbes. It sets to work in its turn to secrete counter-poisons which neutralize the poisons secreted by the microbe. The antitoxins of the organism combat the toxins of the parasite, and in the future the art of serum-therapeutics will be to seek in these resisting organisms the antitoxins fabricated by their cells.

Thus on whatever side we turn we find that medicine has always been guided by experimental science. By experiment and by science it is compelled to march forward. This was true in the time of Harvey, for that immortal physiologist had to meet the opposition of physicians. This was true also in the time of Lavoisier, when by a few decisive experiments he proved the chemic nature of the phenomena of life. But how much more true is it at the present time since Claude Bernard, and above all Pasteur, have by experiment laid open a whole world and have warranted us in conceiving the widest hopes for the future of medicine.

The part of the man of science and of the physician are very different. The physician ought to be conservative, applying methodically the teachings and precepts which he has received. He has no right to experiment upon his patients, or to permit human life or human suffering to be risked on fantastic theories. But the man of science ought to be a revolutionist. He ought not to be content with the doctrines which he has been taught. The opinion of the master ought to be but a light weight upon his mind. He should seek on every hand for facts which are new and even improbable. Darwin says somewhere that he had made the experiments of a fool, and often it is right to attempt that which appears contradictory to all established and classic opinions. Without this spirit of adventure, without this scientific daring which opens up new horizons there is no progress.

The task of the explorer or of the pioneer is not that of the physician. He ought to be careful to keep himself abreast of all scientific progress in order that his patients may have the benefit of it, but he cannot advance the progress of science, save within restricted limits. Having no right to experiment he is almost powerless to solve the difficult problems which arise.

It is the duty of the chemist, the physicists, and above all the physiologists, to guide medicine into the new ways. They have not to take the heavier responsibility of a human life upon their shoulders, and nothing should check their audacity. You, gentlemen, have not the right thus to be audacious; you need prudence and moderation, and, convinced as I am of the power of experimental science, I still think that the applications which the chemist or the physiologist suggests to you should only be accepted with considerable caution. It costs us nothing, after a few experiments which have succeeded fairly well, to say to the physician, "Try that on your patients," knowing very well that our responsibility is

nil, and that the ancient axiom *primo non nocere*, an axiom which ought to be your strict rule of conduct, does not in any way apply to us. You see, therefore, that it would be unjust to make it a matter of reproach to physicians and surgeons that they have not made great scientific discoveries. This is not their mission. It is theirs to relieve human suffering and to seek among new scientific truths that one which is most proper to relieve or to cure the sick.

#### SECOND DAY—SEPTEMBER 1ST.

The event of the afternoon was the Address in Medicine by DR. WM. OSLER of Johns Hopkins University, Baltimore, (see page 293), whose selection for this honor was a most graceful compliment to the entire medical profession on this side of the line. He commanded the closest attention, and was often interrupted by demonstrations of approval. At the close of the address the honorary degree of LL.D. was conferred by McGill University upon the following members of the British Medical Association: Lord Lister, Sir Wm. Turner, Sir Walter Foster, M.P., Professor Michael Foster, Dr. Henry Barnes, Mr. Christopher Heath, Dr. R. Saundby, Mr. C. G. Wheelhouse, Dr. W. H. Gaskell, and Professor Alex. McAlister, and upon Professor Chas. Richet of Paris, France. The degrees were presented by the Chancellor, Lord Mount Royal. At four o'clock in the afternoon a large party made the celebrated trip through the Lachine rapids, while others of the members attended a charming garden-party in the grounds at the Royal Victoria Hospital. In the evening a reception was tendered the Association by "The Man Who Owns Canada," Lord Mount Royal and Baron Strathcona (since the Jubilee), better known as Sir Donald Smith.

#### SECTION IN GENERAL MEDICINE.

##### FIRST DAY—SEPTEMBER 1ST.

DR. STEPHEN MACKENZIE of London, England, the President, opened the Section with a review of the progress of medicine since the establishment of the British Medical Association. He complimented the profession upon the fact that the progress during recent years has been as beneficial in the prevention and treatment of disease as it has been scientific and rational in character.

DR. JAMES STEWART of Montreal opened the discussion on the subject of

##### ARTHRITIS DEFORMANS,

basing his observations on forty cases treated at the Royal Victoria Hospital during the past four years. Thirty per cent. of the male patients had a history of gonorrhea. He discussed the relation of rheumatoid arthritis to rheumatism, nervous diseases, and tuberculosis. One-third of the patients gave a history of antecedent acute or sub-acute rheumatism, and these cases would seem to have been a transition or development from that condition. He believed that evidence is accumulating to show that both ordinary rheumatism and rheumatoid arthritis are of microbic origin. He did not think there is any specific causal relation between rheumatoid arthritis and nervous or tuberculous disease other than the fact that the de-



pression incident to these diseases will predispose and lessen the resistance of the system to this or any other infection. During the past nine months he had employed superheated air baths, with good results, in the treatment of rheumatoid arthritis, in some twenty cases, at the Royal Victoria Hospital.

DR. H. HANDFORD, Nottingham, England, claimed that rheumatoid arthritis is purely an arthritis and has no relation whatever to rheumatism. The frequency of antecedent gonorrheal infection, as noted in the cases of Dr. Stewart, would argue in favor of a pyemic infection of the joints in this disease. He believed the affection to be of microbic origin. He had found that carbonate of guaiacol gives good results in the acute stages. Dr. Lindsay of Belfast, Ire., was a firm believer in the intimate relation between ordinary rheumatism and rheumatoid arthritis, and he relies chiefly upon tonic treatment in both diseases.

DR. WILLIAM OSLER of Baltimore referred to the atrophic nerve changes which frequently follow and possibly result from the disease.

DR. A. JACOBI of New York maintained that there is a distinct pathologic difference between polyarticular rheumatism and rheumatoid arthritis, inasmuch as in the former the lesions are confined to the synovial membrane and in the latter to the cartilages, this fact alone constituting a dividing-line between the diseases. He thought both diseases may be best studied during childhood. His best results have been obtained from the long-continued use of arsenic.

DR. J. C. WILSON of Philadelphia would confine the term "rheumatism" to cases with arthritis lesions only.

DR. F. C. SHATTUCK of Boston had found concealed suppuration a very frequent starting point of rheumatoid arthritis.

DR. MOOREHOUSE of London, Ontario, adhered to the theory of the intimate relation of rheumatism and rheumatoid arthritis, and has found supportive treatment, cod-liver oil, etc., valuable in both conditions.

DR. J. E. GRAHAM of Toronto drew attention to the difficulty of differentiating this disease from gouty conditions. Arsenic has given the best results in his hands.

DR. GRIFFITHS of Swansea, Wales, looked upon the disease as a development of various deleterious conditions, such as shock, bad food, and ventilation; not as a disease *per se*, but rather as a result of certain local influences. Accordingly, the rational treatment should vary with the general indications so as to combat the exciting or predisposing causes.

DR. V. P. GIBNEY of New York referred to the necessity of putting the joints at rest by mechanic appliances during the stage of exacerbation, and subsequently regulating the degree of movement when resolution appeared to set in. By this means relapses from trauma will be prevented.

DR. JAMES TYSON of Philadelphia believed in the microbic origin of the disease.

The PRESIDENT expressed his pleasure at the freedom with which divergent views had been advanced, and believed that ultimately, as a result of independent investi-

gation, unanimity of opinions as to the character of this obstinate disease will be attained.

DR. TYSON then read a paper on

#### THE PROPER USE OF TERMS TO DENOTE MYOCARDIAL CHANGES.

DR. J. T. WHITTAKER of Cincinnati, and DR. N. S. DAVIS of Chicago discussed the paper. The latter emphasized the utility of the terms "cardiac fatigue" and "cardiac exhaustion" in relation to the chemic and anatomic changes incident to these conditions.

DR. M. H. FUSSELL of Philadelphia reported two rare cases of hemophilia occurring in children of the same family, having a hereditary (paternal) history. Bleeding of an alarming character would result from the slightest injury, and prolonged epistaxis without cause was a frequent occurrence.

DR. ACHESON of Galt, Ontario, read a paper on

#### ATONY OF THE RECTUM.

differentiating it from chronic constipation due to mere impaction, and condemning the too frequent use of enemas, especially of warm water.

#### SECTION IN SURGERY.

##### FIRST DAY—SEPTEMBER 1ST.

MR. CHRISTOPHER HEATH of London, the President of the section, delivered the annual address, entitled

#### ON THE TEACHING OF SURGERY.

The speaker expressed the honor he enjoyed in presiding over the section, and especially over colleagues of such eminence as were represented by the vice-presidents of the surgical section. He also acknowledged the pleasure felt in meeting the Canadian members of the profession, as well as those medical brethren from the United States who attended the meeting, and he trusted that the deliberations of the section would not merely advance the science of surgery, but would cement those bonds of fellowship between the members of a united profession, which a common Anglo-Saxon origin should foster and maintain.

After dwelling somewhat at length upon the remarkable strides taken by abdominal surgery during recent years, the speaker turned to the subject of modern anatomic instruction. He said, "I am told by those who are now teaching anatomy that it is difficult to get the student to make a neat dissection, because he can find in the various museums, and notably at the College of Surgeons of England, such beautiful preparations in spirit that he prefers to study from them or from pictures rather than to laboriously extract the details for himself. If this be true, I can only regret that the present race of students is so shortsighted, for without a working knowledge of human anatomy I can conceive of no progress in surgery. I regret to find that, in Great Britain at least, the teaching of anatomy is gradually getting more and more into the hands of professors who are anatomists but not surgeons, and that their tendency is to lay stress upon transcendental details rather than surgical relations."

The speaker asked, Are we not overdoing the scientific teaching of a man who has, after all, to get his living as

a practitioner of medicine, surgery, and midwifery? When the medical curriculum was lengthened by a year it was hoped that the additional time would be devoted to clinical work, but he feared that such is not always the case. He disclaimed it as his intention to decry the modern methods of teaching medicine in the wards of the hospitals, and he praised the practical methods of teaching percussion and auscultation, and spoke of the time consumed in the other departments as leaving but little place for surgery; he lamented that so small a portion of the course is devoted to this important branch, and all of which is in contrast to the fact that there never has been a time of such great surgical activity as now.

In conclusion he said, that "still the great foundations of the art of surgery remain unshaken. Without a knowledge of anatomy, pathology, and histology progress in surgery is impossible, and it is for those who hold the important positions as teachers in the great medical schools to insist that each and every student be provided with a foundation of scientific and practical training, if they are to become the surgeons of the future."

The President then introduced the topics selected for general discussion at this meeting, *viz.*: Appendicitis, and Cancer of the Rectum.

#### APPENDICITIS.

The opening paper was by DR. G. E. ARMSTRONG of Montreal, who said that the introduction of this subject would give opportunity for English and American surgeons to compare their rather widely different views on this widely discussed topic. The paper was based on 517 cases occurring in the Royal Victoria and Montreal General Hospitals, mostly in patients from twenty to thirty years of age, there being about two males to one female. With respect to the etiology of appendicitis, it is only to be said that anything which destroys the epithelial lining may produce inflammation. Doubtless, stercoral ulcers are responsible for many cases. Before 1889, these patients were all admitted to the medical wards, but since then to the surgical. In these 517 cases, the mortality was 12½ per cent. An operation was performed in each instance. One hundred and fifty-two cases gave a mortality of 23 per cent., about twice that of the cases as now treated. Of these 517 cases, the mortality of those not operated upon was 3.12 per cent.; those operated upon in the acute stage was 20 per cent.; those operated upon in the interval all lived. Sixty-five fatal cases were septic and tubercular; peritonitis, with abscess of the liver, etc., caused the death of 61. Septic pneumonia and Bright's disease were responsible for death in 2 instances.

In the case of several patients with "idiopathic" peritonitis who died no lesion could be found at autopsy, and a similar case occurred in a woman who went skating during a menstrual period, so that the term "idiopathic" cannot be banished altogether. The best time to operate is a difficult question to settle. In some cases the attack is so mild that no operation is necessary; in others the condition is so grave that no operation can give relief; but the great majority of cases are now seen between these extremes. The cautious surgeon will operate early, only the bold and

reckless will advise delay. A case was mentioned as occurring in a young professional man, which progressed six days, with scarcely any symptoms. He was forbidden to get up, but did so, and going to the water-closet ruptured a periceal abscess, and in spite of almost immediate operation died of septic peritonitis. The rule is to urge operation if all symptoms are not much improved after twenty-four or thirty-six hours have elapsed, and if the patient is not very much better by the third day there is every reason to operate. In general septic peritonitis, thorough washing with hot normal saline solution is non-irritating, and is successful in removing the pus and fibrin. Three large drains, one in each loin and one in the pelvis, will prevent accumulation of fluid.

In localized abscesses, the removal of the whole of the abscess-walls gives the best results for several reasons. In the first place, this procedure avoids the not too rare danger of leaving other abscesses undiscovered. Another reason is that septic material is in this way removed from the mesenteric and omental veins. This avoids the danger of poison proceeding to the liver or spleen, and the production of secondary abscesses. In a hospital, the peritoneal cavity can be so protected with gauze, etc., that there is virtually no danger of a general peritonitis being produced by this radical treatment, while in private practice it may be necessary for the surgeon to content himself with evacuating, cleansing, and draining the abscess.

DR. J. WARD COUSINS of Southsea, Wales, freely endorsed Dr. Armstrong's statement that no special set of symptoms will surely indicate the course appendicitis will take. No statistics will help at the bedside, where each case must be studied by itself. In the cases which recover without operation, the pain first disappears, then the distension, and later the tenderness. The induration does not point with any reliability to the direction in which the abscess is proceeding. If there is the smallest increase of pain, operation is indicated at once. In order to get the best view of the cecal region after the incision has been made, the introduction of a couple of silk sutures through the edges of the wound is far better than the use of retractors. Contrary to the advice of Dr. Armstrong, the speaker believed in carefully wiping out and draining an abscess, without breaking down its walls. He never irrigates, never pulls out the intestine, and opposes the use of drainage-tubes.

DR. C. B. BALL of Dublin said that there are three classes of cases in which operation was agreed to by all: (1) When peritonitis has already developed; (2) when abscess has definitely formed; (3) when repeated attacks have rendered life a burden. In other cases, even during the first attack, there is a very wide difference of opinion as to the value of operation. The speaker cited an instance in which a patient who was doing well for several days died very suddenly from perforation. Such cases, he said, are decidedly rare, and most patients recover without operation. In a great majority the first attack is the last.

MR. JORDAN LLOYD of Birmingham, England, said that it would simplify matters if one were able to divide all cases into (1) appendicitis, strictly speaking, in which

the inflammation is confined to the appendix, and (2) those in which the peri-appendicular tissues are involved. He considered the swelling a most reliable guide to the position of the tip of the appendix, an organ whose length and location varies much in different individuals. In some seven or eight cases in which a long appendix had caused a pelvic abscess, the reader had imitated what frequently occurs spontaneously, and drained the abscess into the rectum in men, and the posterior vaginal cul-de-sac in women. In opening abscesses through the abdominal wall, he hesitates to employ the radical treatment advocated by Dr. Armstrong, but treats the abscess as gently as possible. Iodoform gauze makes a much better drain than either rubber or glass.

DR. WILLIAM HINGSTON of Montreal agreed in this opinion. He also expressed his satisfaction at hearing one speaker object to the advocacy of so serious a thing as an operation to establish a diagnosis. Men are sometimes too slow to see a way out of a difficulty by any other than an operative route. He has operated in only about one out of ten cases of appendicitis, and has never had occasion to regret not having operated in the other nine. If it is most satisfactory to operate for the benefit of a patient, it is still more so to bring a patient safely through a serious illness without an operation.

DR. ALBERT VANDER VEER of Albany insisted upon the importance of observation of the early points in an attack of appendicitis. He indorsed the plan suggested by Dr. Armstrong for the thorough removal of all infected material about an abscess. McBurney has laid too much stress upon a particular point of tenderness; this may not be found and much valuable time be lost. Statistics are valuable in many ways, but each surgeon must depend more upon statements made to him by the particular physicians who call him in consultation. Cases also vary in different seasons of the year. In cases of general peritonitis some good results have been obtained from wiping off the intestines with gauze, etc., but the greatest improvement in results is to be hoped for from getting into close touch with the family physicians, so that they may be able to present a patient for operation at an early stage.

DR. HUGH FERGUSON of Chicago said that appendicitis is almost exclusively a surgical affection, and that the cases which are not surgical are very rare. It is a good rule not to operate at the climax of an acute attack, as the results are better when the operation is done either before the inflammation has reached its height, or during its decline. In all recurrent cases operation is clearly indicated, as no one can tell when an attack may supervene and prove fatal. Between attacks the McBurney incision, separating the fibers of the muscles longitudinally, so as to avoid subsequent hernia, is recommended. In the case of abscesses, the speaker objected to the practice of breaking down adhesions in the search for the appendix. During the early stage it can almost always be readily found; later, it is better not to hunt for it. Flushing out the cavity gives better results than mopping with gauze. In septic cases, when the patient seems likely to die from absorbed poison, saline transfusion has been tried, with unsatisfactory results.

DR. S. C. GORDON of Portland, Maine, believes in treating appendicitis in the beginning, medicinally. It is a beginning peritonitis, and in ninety per cent. of the cases a saline cathartic will carry the patient safely through an attack. Operation is to be recommended in these cases after the acute attack has passed. The objection has been made that the vomiting prevents the administration of a saline. Usually, two Siedlitz powders, or a concentrated solution of Epsom salts, may be taken; if not, the latter with glycerin may be administered by the rectum, and a movement of the bowels obtained. If after the bowels have acted, the temperature continues to rise, an operation must be performed. Generally, in these cases pus is found. Morphin should never be given for the pain. It is better to suffer agony than death, and if the doctor remains by his patient's side, and administers a saline in a hot concentrated solution, it is gratifying to see how rapidly pain will subside. To rid the bowel of the accumulated fecal matter is of great advantage in the case of a patient who is to be operated upon later. A certain number of patients are bound to die from the first, no matter what is done.

The PRESIDENT expressed his satisfaction at hearing the expression of Dr. Gordon's sentiments, which coincided with his own. In a number of cases he had refused to operate upon patients, who subsequently recovered. The pain can be relieved by painting the region of the cecum with belladonna, and then, if necessary, covering this with a good old-fashioned hot flaxseed poultice. The patient should be kept in bed just as carefully as though suffering from typhoid fever.

DR. ARMSTRONG, in reply, said that he has tried drainage with gauze in every way that had every been advocated, and he had never been able to get it to drain pus. He has repeatedly found pus at the end of a gauze drain which it refused to draw up. A large glass drain is much more satisfactory. He also uses poultices and finds them of great advantage in relieving the pain.

DR. A. E. GARROW of Montreal then read a paper upon

#### VENTRAL AND UMBILICAL HERNIA IN THE SAME PATIENT,

a very rare condition, at least judging from the published cases. In his case the ventral hernia contained the cecum, appendix, small intestine, and omentum, while the umbilical hernia contained only a single knuckle of small intestine.

DR. ALEXIS THOMPSON of Edinburgh spoke of stricture of the intestine as a sequel of strangulated hernia. If the obstruction is due to peritoneal adhesion, causing a kinking, the symptoms will be more acute, while if it is due to a band, they will come on more gradually. A man who had had an inguinal hernia for several years, and in whom strangulation had existed for three days was found with viable strangulated bowel, which was therefore returned *en masse*. Two or three weeks later the symptoms of obstruction rendered further operation necessary. There was found an omega-shaped loop of bowel adherent to the anterior abdominal wall, and with two



constrictions, the one above being especially close and hard while the intestine above it was enormously distended. An artificial opening was made above this, and three weeks later, when the distended gut had resumed its normal size, the affected loop, measuring 17 inches in length, was removed and the two ends brought together with a Murphy button. This was passed on the fifty-first day and the patient entirely recovered. Histologic examination showed the mucous lining of this upper stricture to be entirely atrophied throughout a distance of 2 c.m. (1 inch).

DR. H. O. MARCY of Boston read a paper, entitled

#### THE SUTURING OF WOUNDS.

He spoke first of the desirability of closing the wound permanently at the end of an operation. To do this one has to use a suture which will perfectly coapt the surfaces of the wound and at the same time is susceptible of absorption. The use of animal ligatures in wounds had for many years been employed with success before it occurred to the reader to employ such material as tendons, thus abandoning the dangerous use, in all aseptic wounds, of drainage-tubes. Catgut, however prepared, soon becomes weak and soft when buried in the tissues. Tendons have not this disadvantage, and the tendons of the cariboo and moose, and, later, the tendons of the tail of the kangaroo, have been successively tested and advocated. Of all methods of suture, the uninterrupted suture gives the best results, and each plane should be sutured by itself. An over-and-over glover's stitch is not as satisfactory as an in-and-out suture, each stitch being made to enter the tissues exactly opposite to where the last comes out, so that the thread crosses the wound at right angles.

DR. LANGLEY BROWN of West Bromwick detailed a case of traumatic aneurism of the internal maxillary artery, treated by ligature of the common carotid artery. A man, aged thirty-two, was kicked in the head by a horse, the right side of the face being badly lacerated, and the lower jaw broken in two places. The wounds suppurated and abscesses had to be opened in the face and neck. On the fifteenth day after the accident there was an aneurism in the cheek. Later, there were several dangerous hemorrhages into the mouth and neck. Two weeks later, the common carotid was tied, the aneurism subsided and recovery was complete.

MR. JORDAN LLOYD in such cases advocated the ligature of the external carotid, which is not a difficult operation.

DR. JOHN ASHHURST of Philadelphia thought that in most cases of traumatic aneurism the proper treatment is to cut down directly upon the wounded vessel, though in cases complicated by suppuration, this is a plan which has to be modified. Brain complications after ligature of the carotid are not to be feared.

THE PRESIDENT mentioned one case in which he ligated the left common carotid and, later, ascertained that the vessel on the right side was not pervious. Death resulted.

DR. THEO. A. MCGRAW of Detroit, Mich., reported  
A CASE OF INVAGINATION OF THE CECUM AND VERMIFORM APPENDIX.

A boy, aged six years, was seized with an attack of cholera morbus, the stools containing, besides thin feces, only a little blood and mucus. He recovered from this attack, but while not troubled with diarrhea, constipation or with fever, he had succeeding attacks of pain, lasting from a few hours to a few days, which grew constantly more severe and frequent, until they became so severe that three-quarters of a grain of morphin was required to give relief. After a short time his condition would again be normal. Chronic appendicitis was excluded by the absence of fever, and the presence of an internal omental hernia was suspected. An incision was made above the navel, and the large intestine found inflamed, and the ascending colon had so long a mesentery that the cecum and vermiform appendix was easily brought out through the wound. The cecum and appendix were invaginated into the ascending colon, evidently a condition of long standing. A longitudinal incision was made through the constriction, and the invaginated portion drawn out and excised. The small intestine was not involved in the invagination. The patient made a good recovery.

#### SECTION IN OBSTETRICS AND GYNECOLOGY.

##### FIRST DAY—SEPTEMBER 1ST.

At 10 A.M. the President of the section, DR. WILLIAM JAPP SINCLAIR of Manchester, England, called the meeting to order and announced the postponement of the delivery of his Address until Thursday morning. DR. F. HENROTEN of Chicago then read a paper, entitled

#### THE OPERATION OF CHOICE IN THE SURGICAL TREATMENT OF SEPTIC PELVIC DISEASES, WITH SPECIAL REFERENCE TO THE EARLY VAGINAL INCISION.

He stated that ovarian abscess occurs much more frequently than is generally supposed. The Fallopian tubes show a smaller proportion of alterations than the ovaries which have become infected through the lymphatics, while the tube becomes secondarily diseased through contiguity of tissue. Some slight secondary changes also take place in the broad ligaments in the incipency of the affection. The diagnosis of simple uncomplicated ovarian abscess is difficult. If the woman has fever and pain, the ovary being sensitive and enlarged, slightly movable or immovable, with slight sensitiveness in the uterus, which is more or less fixed, that woman probably has an ovarian abscess. Pus forms in four or five days, and should be at once evacuated. The best route for this is through the vagina, back of the uterus. He has made 125 vaginal incisions without excision. Pus forms in the pelvis much more rapidly than the surgeon expects, and pus in the pelvis is an exceedingly dangerous thing. Immediate incision, usually made posterior to the uterus through the vaginal fornix, with drainage, is necessary. In ninety per cent. of incipient cases of extra-uterine infection cure will follow this procedure. In old cases of pyosalpinx and in certain hyperplastic cases of tubal and uterine disease this operation will not be a success. In well-defined cases of febrile excitement and pelvic pain the early vaginal incision is indicated. He especially emphasized the importance of early incision. The most bril-

lial results follow when the operation is performed before pus forms. The objection may be made that such results will follow without operation, but recovery in these cases only follows after repeated relapses. The symptoms depend entirely upon the nature of the pus, whether infectious or non-infectious.

DR. J. ALDERSON TEMPLE of Toronto opened the discussion on

#### THE CAUSATION AND TREATMENT OF HYPEREMESIS GRAVIDARUM.

He stated that little progress has been made in clearing up the obscure causes of this grave disease. It is much more common in primiparæ, and much more fatal than is usually believed. Morning sickness is purely a sympathetic state, but pernicious vomiting is invariably accompanied by some pathologic condition. Carl Browne, after an experience with 105,000 obstetric cases, says he has never seen one fatal case. In the majority of fatal cases there has been an absence of reliable data regarding *post-mortem* examinations. Hossack said that in most cases we have no right to say that death results from the vomiting. Grailey Hewett lays stress on flexions and displacements of the uterus in the etiology of the disease. T. A. Emmet speaks of cervical inflammations as a cause of vomiting. Involvement of the vomiting center is claimed as a cause by many. He would urge careful discussion and further study on the subject.

DR. ARTHUR E. GILES of London has studied the cause of the vomiting of pregnancy. About thirty per cent. of pregnant women do not vomit; therefore, the vomiting must be regarded as pathologic. About fifty per cent. have no morning sickness during the first three months. When the vomiting occurs during the early months it is generally associated with hydramnios. He regards the vomiting as due to a combination of three factors: (1) exalted nervous tension, (2) peripheral irritation in the uterus, (3) an easy channel for the discharge of nervous tension through the vagus. He would divide all cases of hyperemesis into two classes: (1) those associated with organic disease; (2) those in which there is no organic disease. He does not agree with Hossack in the statement that when a *post-mortem* examination is not made the correctness of the diagnosis should be doubted. In the way of treatment he would urge arrest of the vomiting by measures which do not terminate the pregnancy.

DR. WILLIAM GARDNER of Montreal regards dilatation of the cervix as by no means devoid of danger. It may end the pregnancy, and may induce dangerous hemorrhage.

DR. R. B. MAURY of Memphis, Tenn., has seen many cases of pernicious vomiting, but has not seen many displacements associated with it, nor has he found an accompanying history of dysmenorrhea. He has treated many cases by the usual method of applying silver nitrate to the cervix, and has dilated the cervix, but has repeatedly been compelled to induce abortion, only, however, after consultation. This he regards as a serious operation. The symptoms indicating it are rapid pulse (120 or more) and dark brown or black vomit.

DR. A. J. C. SKENE of Brooklyn said that he was

taught that this disease, to begin with, is due entirely to a nervous condition. It often goes beyond this, in accordance with the rule that long-continued functional troubles will lead to organic lesions. In the ejected matter we find the products of gastritis, and he believes that this is a cause of the disease. Functional disturbance of the liver is common in pregnancy, and this may become organic, after which the stomach shares in the process. Cholesteremia is more common in pregnancy than in uremia. He believes that Grailey Hewett is correct in ascribing the condition largely to uterine displacements. J. Marion Sims was probably the first to dilate the cervix for this condition. The speaker believes in lavage, not only in purely functional cases, but when there is hypermotility and hypersecretion of the stomach.

DR. CHARLES JEWETT of Brooklyn said that in his hands treatment has not been very satisfactory. The patient should be kept at rest and digestion coddled. Feeding by the rectum is of service. Cocain applied to the cervix uteri is valuable in many cases, especially when combined with Copeman's method of dilation to one-half or three-quarters of an inch.

MR. J. C. CAMERON of Montreal said no rule of treatment can be formulated. The patient must be treated and not the disease, which occurs irrespective of environment.

DR. ROBERT BARNES of London, through Dr. Giles, presented to the Association and the Obstetric Department of McGill University, a drawing illustrating the boundary line in placenta previa, which he designates as Bamer's boundary line.

DR. JOHN CAMPBELL of Belfast, Ireland, presented a paper, entitled

#### LABOR COMPLICATED WITH ABNORMALITIES OF THE CERVIX UTERI AND VAGINA.

Atresia of the cervix is best treated by scratching the site of the os and separating the membrane by a sweep of the finger. Rupture of the membrane should be delayed as long as possible. Vaginal septa may be transverse or longitudinal, and may simulate atresia of the cervix. The longitudinal septa are more common.

DR. ROBERT A. MURRAY of New York called attention to the condition of the cervix consisting in an atresia subsequent to chronic hypertrophy as a result of the application of caustics. Manual dilation is the treatment required.

DR. HOWARD A. KELLY of Baltimore said that cases of cicatricial stenosis of the vagina should not at once indicate Cæsarean section. Dilation will accomplish much.

DR. CHARLES JEWETT of Brooklyn now prefers to treat contracted cases by multiple incision and dilatation by rubber bags rather than by hand.

DR. W. C. LUSK of New York presented a contribution to the study of the first stage of labor in the form of a frozen section of a woman dying in labor from some unknown cause. He concluded: (1) that the bulging area is a retraction ring; (2) that the os internum is seen here in the first stage of labor as a distinct structure, and widely separated from the retraction ring, a lower segment

containing passive fibers intervening between the two; (3) that the contraction of the anterior fibers independently of the posterior ones, in the upper portion of the segment which meets superiorly the retraction ring, suggests a greater traction below upon the inner fibers than the outer.

DR. WILLIAM GARDNER of Montreal presented a large number of vesical calculi from a woman seventy-two years of age, who had had procidentia uteri for twenty years. The stones were removed through a vaginal incision and the woman cured.

#### SECTION IN PUBLIC MEDICINE.

##### FIRST DAY—SEPTEMBER 1ST.

The section was called to order by the President, Dr. E. P. Lachapelle, and after some preliminary business the President's address upon

##### THE PROGRESS OF SANITATION IN CANADA

was listened to. The reader reviewed in detail, with pardonable pride, the strides taken by sanitary medicine in the Dominion from the days of the quaint old health-laws of Louis XIV. in 1667, to the present time. The clergy at first, and until the English conquest, were the health-officers, and the parish registers the sole vital records. The system at present in force dates only from the confederation of 1867.

Next came an interesting discussion upon the question, HOW FAR SHOULD MANDATORY MEASURES GO IN DEALING WITH (a) MEASLES; (b) WHOOPING-COUGH; (c) TUBERCULOSIS; (d) LEPROSY?

The discussion was a cosmopolitan one, but the speakers naturally adopted curiously antagonistic grounds, the English members, on the one hand, urging that persuasion should be chiefly used and legal enforcement not insisted upon until public sentiment is able to approve of it, and, on the other, the Canadian members and American participants, urging the passing of stronger laws and more stringent application of them, the difference probably being due to the fact that English communities are governed by their intelligence, ours by our ignorance, and by the time the necessity for a measure has penetrated the intellects of our legislators the whole community is thoroughly alive to its benefits.

DR. PETER H. BRICE, secretary of the Provincial Board of Health of Ontario, opened the debate. He regarded the difficulties surrounding isolation or even notification in measles and whooping-cough as extremely great. The desirability of isolation as far as possible in tuberculosis ought to be strongly urged upon the laity at every opportunity, and our most crying need is for special hospitals in every large community where such isolation can be carried out. As to leprosy, it is practically a curiosity in Canada, and demands no active attention whatever. He was not aware of more than one case of the disease in the province in which he lived.

DR. C. O. PROBT, secretary of the Ohio State Board of Health, said that measles and whooping-cough are extremely difficult to deal with legally, but they are serious factors in the death-rate, destroying more lives than scarlet fever, and should be legislated against if only to arouse

and educate the public as to the danger which may be incurred. He urged that special hospitals be provided for tuberculous patients, and that thorough disinfection, at least, of all rooms occupied by consumptives after their death be made compulsory. General sanitary measures, especially against foul air and overworking, will accomplish more than attempts to prevent communication.

DR. H. HANDFORD of Nottingham was the next speaker. He urged reliance upon persuasion and educative measures, and declared that danger lurks in legal enforcement. In all Nottingham not a single patient with scarlet fever has been forcibly removed to the isolation hospital, and yet nearly ninety-five per cent. of all such have been voluntarily taken there. Compulsion has been tried widely and has almost universally failed in England. From statistics collected by him, he believed that measles occurring during the first year of life has a mortality of nearly twenty per cent., and these patients should certainly be isolated when possible.

The subject was then opened for general discussion. DR. OLDRIGHT of Toronto favored the necessity of some compulsion, if only for educational purposes, and, with DR. E. DUNCAN of Glasgow, urged strongly that the chief danger in tuberculosis lies in infection through rooms, and that two measures should be legally insisted upon: disinfection after death, or removal and avoidance of overcrowding. Dr. Duncan reported five cases occurring in one healthy family which moved into an infected and cramped house, but could find no case of room-infection where cubic space was adequate and ventilation good. DR. CARR of Braintree, Yorkshire, and DR. A. JOHNSTON of Glasgow also urged persuasion and education, declaring that compulsory notification of measles has failed in eighty per cent. of the cities where it has been tried. DR. WOLFRED NELSON of New York commented upon the slight fear of leprosy expressed by all the speakers who had alluded to it, and declared from an experience of seven years in the West Indies and at Panama that leprosy is absolutely non-contagious, as had been voted in the session of the Pan-American Medical Congress. No case of the disease has occurred among the nurses in the Trinidad Asylum during its twenty-six years of existence, and out of 1000 cases in India, Beaven Lake found only two apparently due to contagion, and he thought sanitarians quite right in ignoring it. This evoked a spirited protest from DR. BENJ. LEE of Philadelphia and DR. F. FORMENTS of New Orleans, on the ground that they had each seen a case which was of contagious origin. This closed the discussion, and DR. JAMES T. NEECH, Health-Officer at Atherton then read a paper upon

##### THE PERIOD OF INFECTION IN SCARLET FEVER,

in which he came to the conclusion that the usual formal term of six weeks is too short, as discharged patients have proved to be the medium of fresh infection in from one to two per cent. with this limit. Apparently healthy mucous membranes seem capable of retaining infectious materials, and he urged the extension of the term of isolation to eight weeks.

DR. A. JOHNSON of the Isolation Hospital, Glasgow,



supported these positions and urged thorough disinfection of the nose and throat as well as of the skin before patients are sent home. SIR JAMES GRANT of Ottawa called attention to the bearing of this long infection period upon the possibility of puerperal infection at the hands of the physician. DR. MALCOMSON of Middleboro reported a case in which damages had actually been given against a health-officer on account of infection from a discharged patient. DR. ADAM MICKLE of Christ Church, New Zealand, also spoke briefly.

The papers of Dr. Hough of Bradford, Miss., upon "Cadaveric Fauna," and of Dr. Murray Wrotter of Washington, D. C., upon "A Report of Entomological Examinations of One Hundred and Fifty Cadavers" were of great interest. Both agreed that further investigation has failed to support the former supposed medico-legal importance of the insects present in the coffin or tissues of a corpse as to the time of burial and age since death.

## REVIEWS.

### DIE PATHOLOGIE UND THERAPIE DER NEURASTHENIE.

VON DR. OTTO BINSWANGER, Professor der Psychiatrie zu Jena. Jena: Gustav Fischer, 1896.

DESPITE the numerous publications on the different functional nervous disorders, any thorough investigation of this subject will be regarded as a valuable contribution to science, inasmuch as we are proceeding in this domain more or less on *terra incognita* as in comparison with organic diseases.

In view of the fact that we have to depend solely on the manifold clinical symptoms without positive knowledge of the nature of the pathologic process, it is but natural that these various disorders have been looked upon in the most diverse ways according to the standpoint of the individual observer, and that their classification has been left more or less to the discretion of different authors. While on the one hand innumerable divisions and subdivisions of functional nervous diseases have been made, there are, on the other hand, many authors who consider all these classifications as purely arbitrary and who would not look upon any of these divisions as a *morbus sui generis*, but rather as a casual complex of various symptoms.

The author of this book holds a somewhat original view in regard to the nature of neurasthenia. According to him, there is not a qualitative but rather a quantitative difference between the affection and the other functional nervous diseases, of which neurasthenia forms, so to say, the first step. "Neurasthenia stands on the borderline between the undeveloped nervous affections and the fully developed neuroses and psychoses." The following is his definition of the disease: "Under the term neurasthenia we classify all those neuropathic conditions which have developed from the soil of a general functional disease of the nervous system, but which cannot be classified among the fully developed neuroses and psychoses emanating from the same soil, on account of their unfinished character."

In accordance with this broad definition we find nearly

all symptoms of the entire psycho- and neuropathology mentioned in the book; and among the numerous cases reported we find all kinds of functional psychoses and neuroses. "Women, who kick the floor with their feet, smash plates on the floor, run up and down without purpose, and finally throw themselves on the sofa or bed crying in utmost despair" always have and probably will be called "hysterical" and not "neurasthenic," while men (case 8 and 9), who are suffering from deep mental depression with paroxysms of anxiety, and who during such an attack actually commit suicide will be considered as cases of melancholia, and not of neurasthenia.

In the same manner we find cases of hypochondriasis, of psychological degeneration, of imperative ideas, agoraphobia, topophobia, etc., described as various forms of neurasthenia. The following are the different varieties of neurasthenia according to Binswanger:

1. Neurasthenia with predominating psychical disturbances; (a) the hereditary form of neurasthenia; (b) the acquired intellectual debility; (c) the hyperalgetic form.
2. The motor form of neurasthenia; (a) with predominating irritative symptoms; (b) the paretic form.
3. The dyspeptic.
4. The angioneurotic.
5. The sexual form of neurasthenia.

While the attempt of the author to characterize and classify a special disease cannot be called a success, his book, however, will be of interest and value to anyone who seeks information about the symptomatology and treatment of general functional disorders of the nervous system.

## THERAPEUTIC HINTS.

*For Amenorrhea Occurring During Chlorosis.*—DAUCHEZ recommends the following mixture for amenorrhea in young chlorotic girls:

℞	Syr. hypophosphite of iron	} aa	3 i
	Syr. hypophosphite of soda		
	Syr. hypophosphite of manganese		
	Glycerin		
	Cherry laurel water		m. xl.
M. Sig.	Teaspoonful after meals.		

*Rapid Cure for Pemphigus.*—Two obstinate cases of pemphigus were cured by OHMANN-DUMESNIL (*St. Louis Med. and Surg. Journal*, June 1897), with the following prescriptions:

℞	Acidi arseniosi	gr. ʒi
	Pulv. piper nig.	gr. iss
	Ext. gentianæ	q. s. ad.

M. Ft. Pil. No. j. Sig. One pill after each meal.

The bullæ were opened, and the following ointment applied to the excoriated portions of the skin:

℞	Pulv. camphophenique	3 i
	Ung. aquæ rosæ	3 xvi.

*To Make a Normal Salt Solution for Transfusion.*—

℞	Sodii carb.	gr. xv
	Sodii chlor.	3 iss
	Aquæ	Oii.